











# IRISH GARDENING

A MONTHLY JOURNAL DEVOTED TO THE  
ADVANCEMENT OF HORTICULTURE AND  
ARBORICULTURE IN IRELAND

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# INDEX TO VOL. XIII.

NOTE.—The various plants mentioned in the "Month's Work" and other general articles are not indexed. Illustrated subjects are printed in italics.

- Adonis amurensis*, 21.  
*Aethionemas*, 88.  
 Agricultural Experiment Stations of Canada, 171.  
 Allotment observations, 23, 15, 62, 94, 110, 151, 171.  
 Allotments and school gardens, 45.  
 Allotments, the common sense of, 61.  
 Allotments, demonstration, St. Stephen's Green, Dublin, 62.  
 Allotment notes, 111, 173.  
 Alpine and rock plants, 58.  
*Alpine knotweed*, 140.  
*Anchusa*, Dropmore var., 101.  
 An army honour, 157.  
*Aphides abietineae*, 105.  
 Apples, brown rot of, 172.  
 Appointment, 154.  
 Arboretum, the, 157.  
*Aubrietias*, 89.  
  
 Beans, haricot, 52, 73, 179.  
 Beans of sorts, 71.  
 Beans, broad, growing with potatoes, 14.  
 Bellflower, the Persian, 121.  
*Berberis candidula*, 153.  
*Berberis Prattii*, 12.  
 Birds of the garden, 80.  
*Bulb planting*, 148.  
  
*Campanula mirabilis*, 139.  
 Carnations, perpetual flowering, 144.  
 Catchfly, double white, 7.  
 Cider fruit in food production, 176.  
 Club-root, 14.  
*Crataegus orientalis*, 154.  
*Cyclamen Rohlfianum*, 36.  
  
*Disanthus cercidifolia*, 6.  
 Dublin Corporation Land Cultivation Committee, 26.  
 Dwarf Rose culture, 149.  
  
 Economy in the use of vegetable seeds, 48.  
*Erinacea pungens*, 91.  
*Escallonias*, 101.  
*Euonymus europæus*, 169.  
 Experimental planting in France, 170.  
  
 February flowers, 38.  
*Fendlera rupicola*, 106.  
*Flowering plants of January*, 18.  
 Flowers, wartime, 41.  
 Flowers of March, 53.  
 Flowering plants in early spring, 68.  
 Flowers of April, 70.  
 Flowers of May, 86.  
 Flowering shrubs in spring, 97.  
 Flowers of August, 132.  
 Flowers of October, 166.  
  
 Food Control Committee, Irish, 26.  
 Food Production, 73, 147.  
 Food supply, maintaining the, 120.  
 Forestry, 2.  
 Forestry question in Canada, 27.  
*Forsythia*, 80.  
 Friends and foes of plottolders' crops, 21, 42, 55, 76.  
 Fruit culture in Queensland, 12.  
 Fruit industry, the, 27, 54.  
 Fruit preserving without sugar, 51, 75.  
 Fruit crop, the, 122, 121.  
*Fuchsia excorticata*, 107.  
  
 Gardening lectures, 28.  
 Gardeners and foresters under the Department of Agriculture, 121.  
*Gentianellas*, 40.  
 Geraniums for the rock garden, 106.  
*Gladiolus tristis*, 89.  
*Grevillea sulphurea*, 6.  
  
*Hedgehog broom, the*, 91.  
*Herbaceous border, making a*, 8.  
*Heucheras*, 105.  
*Hippocrepis comosa*, 107.  
 Home-grown seeds, 131.  
  
*Irises, early flowering*, 36.  
 Irises, intermediate, 90.  
*Irises*, 107, 180.  
  
 July Plants and Flowers, 120.  
 June flowers, 102.  
  
*Laburnum*, a hybrid, 168.  
*Laurestinus*, 180.  
*Lavatera olbia*, 168.  
 Ladybirds and larvæ, 106.  
 Lectures for plottolders, 8, 22, 44.  
 Lime, functions of, 13.  
*Linum salsoloides*, 104.  
 List of flowering trees and shrubs, 184.  
*Lonicera fragrantissima* and *L. Standishii*, 48.  
  
*Magnolias, Japanese*, 65.  
 Manures and fertilisers, 30.  
*Meconopsis nepalensis var. elata*, 103.  
*Meconopsis Prattii*, 103.  
 Month's work, the, 15, 31, 46, 63, 78, 95, 111, 127, 142, 158, 171, 186.  
  
 New year, the, 1.  
  
 Obituary, 13, 110.  
*Old Conna Hill*, 81.  
 Onion, the, 29.  
 Onion mildew, 91.  
*Ostrowskia magnifica*, 121.

- Parsnip, the, 1.  
 Parsnips, 10.  
*Pancreatium illyricum*, &c., 114.  
*Parietaria officinalis*, 169.  
 Pea, the, 33.  
 Peas, earliest spring-sown, 23.  
 Pea, Weevil, 72.  
 Peaches, a land of, 16.  
 Pentstemons, 137.  
*Phlox Drummondii*, 169.  
*Picea bicolor*, 17.  
*Picea omorika*, 20.  
*Pinus excelsa*, 66.  
 Pine trees of the rocky mountains, 12.  
*Pine, the Fastigiata Scots*, 161.  
*Pinguicula grandiflora*, 110.  
 Plants, notes on some half-hardy, 116.  
 Points for plottolders, 25.  
*Polygonum alpinum*, 110.  
*Poplars, the black*, 49.  
 Potato, Duke of York, 6.  
 Potatoes grown from single eyes, 28.  
 Potatoes, the land of big, 80.  
 Potato disease, prevention of, 92.  
 Potato spraying, 108.  
 Potato trials, 155.  
*Prunus dasycarpa*, 72.  
*Prunus pseudo-cerasus Watereri*, 72.  
 Pruning flowering shrubs, 162.  
 Public bodies and trained gardeners, 110.  
*Pyrus aucuparia moravica*, 153.  
*Pyrus Niedwetzkiiana*, 6.  
  
 Rainfall, 32.  
 Reported missing, 157.  
 Rest harrows, 107.  
 Reviews, 9, 77, 91, 108, 141.  
*Rhododendron Augustini*, 86.  
*Rhododendron bullatum*, 7.  
*Rhododendron cuneatum*, 72.  
*Rhododendrons, Chinese*, 72.  
*Rhododendron fulgens*, 80.  
  
*Rhododendron Loderi*, 86.  
*Rhododendron oreotrephes*, 5.  
*Rhododendrons, some notes on*, 82.  
 Rock garden, subjects for, 51.  
 Rock garden, winter and early spring in, 67.  
 Rock garden, the, 119.  
 Rock garden, autumn work in, 148.  
*Rosa Moyesii*, 107.  
 Roses, greenfly on, 92.  
*Roses, the month of*, 100.  
 Roses, the pruning of, 36.  
 Rose Mrs. W. H. Cutbush, 153.  
 Rostrevor House, early flowers at, 39.  
*Royal Horticultural Society of Ireland*, 125, 156.  
  
 School garden and allotments, 11.  
 School of Gardening for Women, Irish, 27.  
*Sedum pyramidale*, 145, 180.  
 Seed sowing, 41.  
 Sea lavenders, 138.  
 September flowers, 151.  
*Shrubs, summer flowering*, 129.  
 Soil fertility, 21.  
 Spraying of fruit trees, spring and summer, 75.  
*Spraying and spray fluids*, 164.  
 Strawberries, 115.  
  
*Taxus baccata Dovastoni*, 140.  
 The apple, 181.  
 The garden in November, 177.  
 The Gromwells, 178.  
 The Song of Picardy, 160.  
 Torch Lilies, summer flowering, 104.  
*Tropæolum tuberosum*, 26.  
 Tulips, 90.  
  
 Umbrella tree, the, 107.  
  
 Vegetation of Mesopotamia, 183.  
*Vella, the genus*, 135.  
*Veronica laudiana*, 138.

# Irish Gardening

## Contents

	PAGE		PAGE
The New Year . . . . .	1	Reviews—	
Forestry . . . . .	2	"Jottings of a Gentleman Gardener" . . . . .	9
The Parsnip . . . . .	4	"Rhododendrons and the various Hybrids" . . . . .	9
Rhododendron oreotrephes (Illustrated)	5	"Concrete and Constructional En- gineering" . . . . .	10
Notes . . . . .	6	School Garden and Allotments . . . . .	11
A Double White Catchfly (Illustrated)	7	Obituary—Andrew Campbell . . . . .	13
Lectures for Plotolders . . . . .	8	The Month's Work—	
The Making of a Herbaceous Border (Illustrated) . . . . .	8	Southern and Western Counties . . . . .	15
		Midland and Northern Counties . . . . .	16



# The Vegetable Products Committee

## **IRISH BRANCH**

**President—The Most Noble the Marquis of Headfort.**

**Hon. Secretaries—Sir Frederick W. Moore, M.R.I.A.,  
James Robertson, J.P.**

**Hon. Treasurer—D. L. Ramsay, J.P.**

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With the recognition and approval of the Admiralty and the War Office the VEGETABLE PRODUCTS COMMITTEE has been formed under the presidency of LORD CHARLES BERESFORD for supplying Vegetables, Fruit, Jam, &c., to the NORTH SEA FLEET, in connection with which the IRISH BRANCH has been registered at the Head Offices, London, and through whom all enquiries respecting Ireland's contributions to the project should be made.

"The most ample expression of our thankfulness can never repay the debt which the people of these Islands owe to the gallant Officers and men of the Navy, who, by their ceaseless vigil on the danger-strewn waters of the North Sea, are maintaining us in comparative peace and quiet."

The Committee of the Irish Branch appeal for help in maintaining, as far as possible, regular supplies to the NAVAL BASE allocated to them, both by Gifts of Vegetable Products and contributions of money to supplement the supplies by purchase in the Market. Such gifts are urgently required to keep up the supply during the trying winter months.

The Hon. Secretaries invite enquiries, and will be pleased to give information and particulars as to forwarding gifts, on application. Remittances to be made to MR. D. L. RAMSAY.

**Offices of the Royal Horticultural Society of Ireland**  
**5 MOLESWORTH STREET, DUBLIN**



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EDITOR - J. W. BESANT

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## The New Year.

NEVER in all its long history was gardening so important as at the present time. In practically every civilised country cultivation is going on with an intensiveness hitherto undreamt of. Farming, which produces most of the bulkier foodstuffs, is being extended and pursued vigorously everywhere in all continents where food of any kind can be produced. Gardeners, with their intensive methods of cultivation, have during the past year produced enormous quantities of good food, and have by precept and example encouraged thousands of others to do likewise. The year 1917 might well go down to posterity as the allotment year, for it has been distinguished by the immense enthusiasm of the allotment holders in Great Britain and Ireland; and, judging from signs and portents now apparent, the New Year bids fair to equal if not eclipse its predecessor. Thousands still clamour for allotments, and they must be satisfied. There may be acute scarcity of food, but it must be mitigated as far as possible, and one of the easiest means of eliminating the danger is to provide plots for all who require them, and who are willing to cultivate them.

It should be the aim of everyone to help forward the allotment movement to the utmost. At the present moment how many are enjoying a sufficiency of Potatoes who would otherwise be buying against each other in the shops! An

enormous amount of work remains to be done in spreading a knowledge of the best methods of growing garden crops. From all parts of the country we heard of the magnificent work done during 1917. Allotments obtained late in the spring, the ground in appalling condition, yet by midsummer the crops were growing as best they could. The fine early work was too often marred by subsequent errors in sowing and planting. Frequently two or three times the number of Potatoes were planted that need have been, and all sorts of seeds were invariably sown too thickly and insufficiently thinned out. The old pernicious lazy-bed system of growing Potatoes should be got rid of, and planting in drills or on the level substituted. Expert advice tactfully proffered is greatly wanted, and trained gardeners should do their utmost to help and encourage food production. In our February number last year we ventured to appeal to the trained gardeners of Ireland to let no opportunity pass of helping in the great national work of food production, and we again urge them to place themselves at the service of the nation. We would be glad to see the Royal Horticultural Society of Ireland taking up the allotment movement and lending its powerful assistance in procuring additional land and in supplying expert advice wherever required. The New Year opens under dark war clouds, but we must find the silver lining.

## Forestry.

WE are again impelled to allude to this most important subject from having just read a most charming booklet by Sir Andrew Agnew, Bart., President of the Royal Scottish Arboricultural Society, entitled "An Introduction to Forestry for Young People." The author is an enthusiastic forester and lover of trees, and has penned his message to the young folks in just that simple, sympathetic manner most calculated to arouse the interest of his readers. Avoiding all dry technicalities and leaving statistics severely alone he takes the children right into the woods, and introduces them to the various trees useful in forestry. Incidentally he tells them of the skilled forester and his work, showing how the work of managing woods and forests is not for those who do not understand, but requires years of technical training. By carefully-worded descriptions the most important forest trees are made familiar, while illustrations help to make clear the difference between forestry or silviculture and arboriculture. The importance of forestry for the production of timber and as a means of improving the climate and amenities of the country is emphasised, the idea being to train the rising generation to a proper appreciation of the need for a comprehensive system of forestry throughout the whole country wherever land exists which is not good enough for agriculture.

The publication of this excellent little book was made possible by the generosity of two members of the Royal Scottish Arboricultural Society, who "joined in sending a handsome donation to the Society, to be employed in creating an interest in afforestation among children." A third member subsequently made a further gift for the same purpose. It was left to the discretion of the Council how the money should be spent. It decided in favour of "a small book, which should describe the objects and methods of forestry in such a way as to make them intelligible, and possibly interesting, to young people." The result is in every way satisfactory, and we take the liberty of commending the book to the notice of the members of the Irish Forestry Society.

Are there no members of the Irish Society prepared to emulate the generosity of the Scottish enthusiasts? But for an odd paragraph in the newspapers at long intervals, we rarely hear of the Irish Forestry Society, yet it numbers among its members men of scientific and technical experience who are second to

none, and have even an international reputation as experts. What steps are we in Ireland taking to interest the young in the urgent question of reafforestation? Arbor Day comes once a year, but the few trees planted convey but a poor idea of forestry. They are mostly planted in urban areas, and are seldom species of any value for forest planting. We have, perhaps, the best climate in Europe for tree growing, yet Ireland is almost, if not quite, the most treeless country of the whole continent. The dwellers in rural districts are those to whom it is necessary to bring the whole force of argument in favour of forestry, and if adults are apathetic, the children at least should be encouraged to love trees, and should be taught to understand how they are grown to produce timber. The Irish Forestry Society, it may be, lacks funds for efficient propaganda work, but this difficulty should not be insurmountable in a country which is now teeming with money, and in which many, very many, owners have lately been able to sell timber at remunerative prices. Now would seem to be an opportune time to make a wide appeal for members. Hundreds probably, who have lately made a profit from timber they never expected to sell, might be caught in the right mood to become enthusiastic members. It would be only right and fair that some, at least, of the money, which has come to Ireland for timber should be expended in planting young trees to take the place of those which, having had their day, are now filling another role in devious ways and in far places. Never, perhaps, was the nation in a better mood to listen sympathetically to the arguments of the forester. Thousands of allotment holders all over the country have felt the supreme satisfaction of having grown their own vegetables, and there is no satisfaction to equal that of having produced something from the soil. Many of these industrious workers had to overcome absolutely appalling difficulties in rendering their allotments fit to grow anything; but they succeeded. Having turned oftentimes dreary wastes into productive gardens, it is natural to infer that these same people would listen with sympathy to those who urge the reafforestation of Ireland's bare hillsides and bogs. With such a volume of support behind it the Irish Forestry Society should have no difficulty in impressing the whole nation with the imperative necessity of having a national scheme of afforestation ready to be put into operation as soon as the war is over. Even now many people fear the reaction when peace comes, and dread the pro-

bability of lack of employment. Surely forestry might provide one means of reabsorbing thousands of men into civilian pursuits, and it only requires the scheme to be ready—and the trees. Of the latter there should be no fear. Our advertisement pages will show that month after month Irish firms advertise forest trees, and there is little doubt that they

event of overseas supplies being cut off, and who have submitted scheme after scheme for Government approval, but the result has been invariably the same—the Treasury would not provide the money.”

Since then the position has become more acute. Thousands of trees have left Ireland or have, in any case, been cut down; but, on



*LYCHNIS VISCARIA FLORE ALBO PLENO.*

At the Bush, Antrim (see p. 7).

could supply millions, and would soon have millions more if they saw any signs of forestry coming into its own. In our July number of last year, in commenting on an address given by Mr. A. C. Forbes, Chief Inspector of Forestry in Ireland, at the general meeting of the Irish Forestry Society, we wrote:—"It is absolutely imperative that the shortage in our forest areas should be made good at the earliest possible moment. . . . There is no lack of competent foresters, who have in the past pointed out what would surely happen in the

the other hand, thousands of pounds must have gone into the pockets of those who had timber to sell, and it would not be unreasonable were the Government to require at least a proportion of that money to be expended on replanting the denuded areas.

We trust the Irish Forestry Society will take up the matter vigorously; and we appeal to our readers to become members, and help to create an industry that will be of incalculable advantage to Ireland and future generations of Irishmen and women.

## The Parsnip.

BY ANDREW F. PEARSON.

As a highly nutritive vegetable, the Parsnip comes second only to the Potato, although the estimated gross value per acre of the Parsnip is £50 to £80, against the Potato's £24 to £48. These figures, however, are controversial, and need not be dwelt on.

The Parsnip is found growing wild in the meadows of southern Europe and England, and in its wild state is an unpalatable thing. The cultivated form has been so improved by careful selection and hybridising that the modern root bears no resemblance to the wild one in food properties. In times of scarcity an excellent bread has been made from the root. Its riches in sugar, starch, gum and albumen permit a valuable wine to be drawn from it. English housewives can produce this wine with ease, and I can testify to its merits. As a food for dairy cows it has been proved to possess high-class butter-producing qualities.

The prime factor in growing first-class roots is a deeply worked soil, of a sandy loam in character. Although stiff soils well worked will produce good roots, the two exceptions to growing good roots are perhaps stony, shallow soil and freshly manured soil, especially when the manure is worked in the first spit; coarse forked roots are then produced, and these are just what a Parsnip should not be: a prime root ought to be a solid, clean single tap, varying from 9 to 24 inches, according to the quality of the soil, the grower and the variety. In the case of stony soils, a deep hole may be made with a crowbar, working it to a suitable size, and filling with fine soil. This, although a laborious process, has the merit of producing very fine roots.

Assuming that the ground has been prepared by deep working during the autumn or winter months, and that it has not been recently occupied by Celery, Carrots, Parsley or other plants of an umbelliferous nature, the first fine weather in February should be taken for preparing the seed bed.

Proceed by breaking down and levelling the surface with a spade or fork, rake off all stones, and draw furrows with the aid of a triangular hoe 18 ins. apart and about 1½ ins. in depth. This operation can only be performed when the soil is really dry, and choose as fine a day as possible for seed-sowing, the seed being so light

that wind will blow it everywhere but the proper place. In ordinary seasons I would advise sowing the seed in one continuous line, but the scarcity of seed this year demands economy. This can best be accomplished by sowing three or four seeds in clumps every 9 inches, and finally selecting the strongest seedling as the occupant. This method will give good results, and save much seed. Finish off the whole bed by lightly covering the seed, pressing gently by foot pressure and raking smoothly.

In due time the seedlings will be in competition with the weeds. The hoe must then be plied diligently between the lines to keep the latter in subjection; and mark this point: surface cultivation with the hoe, whether they are weeds or not, is the best aid to the growth of plants of all kinds. It acts as a mulching in dry, hot weather, preventing rapid evaporation and crackling of the surface; it aerates the inner soil, and leaves it in a fit state to readily benefit by rainfall, which, by the way, is the most valuable nitrogenous stimulant obtainable.

During the early summer months growth will be luxuriant; indeed, few vegetable growths command more respect than well-grown Parsnips, with their deep green hue and ornamental foliage. At this season, however, some little things may go wrong—insect pests there are, although rarely serious, and fungi at times claim their share in attack. The commoner insect is the Parsnip fly, "*Tephritis onopordinis*." This fly produces a grub which burrows into the tissues of the leaf, and causes yellowish patches to appear. The grubs may be killed by pressure of the fingers, and then, as a preventive to the fly's depredations, spray the crop with Quassia extract, soluble paraffin, or some equally effective insecticide.

Should fungus attack the crop it will be readily recognised in the shape of mildew. The surest method of combating this is to spray with ordinary potato-spraying mixture (Bordeaux mixture) at about same strength as advised for Potatoes.

I trust that the mention of these pests will not debar the prospective grower; they are only possible contingencies, not probable.

Next to the preparation of the soil comes the question of the best variety, for without a real good sort the labour of preparation is so much wasted effort.

I had hoped that the crisis through which we are now passing would have by now resulted in an abridged list of varieties of all kinds of vegetables, but the first seed list for 1918 to hand presents us with a very great choice in variety.

Parsnips rejoice in five so-called distinct sorts. As already mentioned, the new and old roots are vastly different in every way. The newer varieties are marrow to the core; practically all the old fibry core is eliminated, and the flavour is correspondingly improved.

Seedsman who specialise grow their own stocks, and nearly every house of repute sends out its own special Parsnip. I believe, for a heavy crop, a good strain of Hollow Crown is

then begins, so whatever then remains should be fitted and used up as required.

It requires no prophetic vision to predict a great scarcity in foods during the next few years, and he who lays his heart and soul into the work of food production—be it on the back yard, the allotment, or the broad acre scale—is a benefactor to the nation; that is the spirit in which the notes on the prosaic Parsnip are written.



EXAMPLE OF HERBACEOUS BORDERS WITH PATH BETWEEN  
(see the Making of a Herbaceous Border, p. 8).

hard to beat, while a good strain of the variety Student is second to none in flavour, if slightly less weighty. I have found a variety called Tender and True really good, but whatever variety is grown let the seed be new, as its germinating power diminishes rapidly after one year, and disappointment can only result from the use of old seed.

By October, growth for the season will be finished, and the foliage will gradually die down. The roots may then be used, lifting with a fork as they are required. In the event of hard frost occurring, a coating of leaves or litter may be spread over the roots to secure them. No useful purpose is served by leaving them in the ground after February, as growth

### *Rhododendron oreotrephes.*

A new species, first discovered in 1906 by Mr. Geo. Forrest, who collected seed on the eastern flank of the Lichiang Range. It is described as from 15 to 25 feet high, but young plants in cultivation at Glasnevin make but short, hard growths annually, and it appears as if it would be many years ere they reach even 6 ft.

The leaves, which are dark green above and glaucous below, vary from  $2\frac{1}{4}$  in.  $\times$  1 in. to almost 3 in.  $\times$   $1\frac{1}{2}$  in.

Flowers rosy lavender, with deeper markings. A desirable species, and one which will become popular when more plentiful.

J. W. B.



## Notes.

### *Pyrus Niedwetzkiæna*.

IN the note upon this Crab at page 148 of the October issue of IRISH GARDENING "J. M. W." describes it as fruiting sparsely. With us the opposite was the case, some of the branches being laden to the breaking point. Each year, with a favourable spring for the setting of the fruits, the trees blossom and fruit freely. Though one of the largest fruiting of the Crab family, it is one of the least useful, having less flavour than a raw Turnip. The breaking of the branches on the trees at Kew in quest of the fruits is ample evidence that they are attractive to the eye, though the spoils must be sadly disappointing to the palate.

There is no question about the value of *Pyrus Niedwetzkiæna* as a distinctly ornamental tree of moderate size, both in flower and fruit, for the pleasure grounds and shrubbery borders. It was first introduced to Britain in 1894, and is said to be common in S.W. Siberia and the Caucasus.

Only a percentage—probably not more than half—of the trees come true from seeds which suggests that it is most probably a form or variety of the Common Crab *Pyrus Malus*.

A. O.

### Potato Duke of York.

THIS is one of the best second earlies I know. Planted at the same time as Midlothian Early, it is ready for lifting about a fortnight or three weeks later than that popular variety, and can be dug as wanted for many weeks after. This last spring I planted British Premier for first early and dug a good crop from the middle of July onwards. Duke of York was ready before the Premiers were finished, and supplied us with Potatoes until late in the season; in fact, the balance was dug and placed in a box to be used as wanted. They lasted until long after the late varieties were clamped.

In well cultivated ground, dug and manured in autumn, I am a firm believer in planting on the flat—that is, I simply mark out the position of the drills, open a hole with a trowel, place the Potato about four inches deep, and cover carefully, to avoid breaking the sprouts. As the haulm appears above ground, a little loose soil is placed over it in case of frost, but when growth becomes more rapid and the stalks have grown some six inches high, the soil is drawn upon both sides, either by a shovel or a draw hoe. In this

way "earthing up" is carried on till no longer necessary. I can see no necessity whatever for opening drills and then closing them again, when the final result is exactly the same by planting in holes and "earthing up."

NORTH DUBLIN.

### *Grevillea Sulphurea*.

(GREVILLEA JUNIPERINA).

THIS interesting evergreen shrub is at present giving a fair display of its yellow flowers despite recent snaps of frost of some 9°.

It is apparently hardier than *G. rosmarinifolia*, though perhaps less ornamental than that species, where it does well. It is also more upright than the latter species, and in that resembles *G. thyrsoidea*, which, however, has pink flowers, and is also hardier than *G. rosmarinifolia*.

All, however, are most interesting shrubs from Australia and hardier than many plants from that sunny land.

Has anyone tried *G. Preissei*, properly called *G. thelemanniana*, outside? It is very ornamental in a cool house.

J. W. B.

### *Disanthus Cercidifolia*.

A BUSH, 6 to 7 feet high, of this interesting and rare Japanese shrub flowered freely at Kew the second half of October and during November. It belongs to the natural order Hamamelidaceæ, and, in common with that family, has the slender narrow petals, in this case five in number, forming small dainty crimson purple flowers, half an inch in diameter.

Eventually said to become a large twiggy bush, 7 to 8 feet, or even more, in height, *Disanthus cercidifolia*, after last winter's experience, is evidently a perfectly hardy shrub. It grows freely in a well drained loamy soil to which leaf-mould and peat has been added. Layering forms a ready means of propagation, and cuttings made of the young growths root in a slightly heated propagating frame during the autumn. In summer the foliage might be readily mistaken for a *Cercis* (Judas Tree), but it is during the autumn that this Japanese shrub attains its greatest beauty, the leaves gradually changing to a vivid wine-crimson.

While these are at their best, the flowers open in October, and continue well beyond the middle of November, when the last of the leaves fall. As seeds take a year to mature, it is doubtful if the weather conditions will be favourable to their development in this country.

A. O.

**Rhododendron Bullatum Franchet.\***

This interesting and distinct *Rhododendron* has recently flowered in our gardens, grown from seeds collected by Mr. George Forrest (numbers 508 F., 4141 F.) in North-west and West Yunnan. The species was first discovered by the Abbé Delavay, also in Yunnan, on the Franghuan Mountain, about 1885. The species is allied to the Himalayan *R. Edgworthii*, though possibly not quite so tender. *R. bullatum* can only be

and deliciously fragrant; a funnel-shaped flower with plenty of substance in the five-lobed corolla.

A. O.

**A Double White Catchfly.**

*LYCHNIS VISCARIA FLORE ALBO PLENO.*

This is a beautiful and easily grown rock plant, and equally useful for the front of the herbaceous border. It is a member of the Pink family (Caryophyllae), the type plant which has pink flowers being a native of Europe, and



PART OF A HERBACEOUS BORDER WITH WALL BEHIND  
At Alexandra College, Dublin; note flowers growing on wall.

cultivated at Kew successfully under glass, though in the favoured parts of the south and west plants thrive in the open. In Sussex it has survived 20 degrees of frost in a sheltered position.

Mr. George Forrest describes *R. bullatum* in its native habitat as "a loosely branched shrub, 4 to 8 feet high." The younger branches are clothed with a tawny down, the ovate lanceolate leaves, 2 to 3 inches long, bullate, pale green above, densely covered beneath with pale red-fish tomentum; flowers, usually from three to five or six in a truss, white, flushed with pink.

\*See illustration in last issue.

occasionally found in Britain. The double white variety, as our illustration shows, is a most attractive one, but the variety known as *Lychnis Viscaria splendens* is equally desirable. In this case the flowers are deep rose-coloured, and never fail to charm. When in vigorous condition the forms will approach 18 inches in height at flowering time, which is in June and July. After flowering, if the growths have become crowded and the flower stalks short and poor, the plants may be lifted and divided, replanting, with a little decayed manure added. The following year they will be as vigorous as

174

P.

## Lectures for Plotholders.

### HOW TO CROP AN ALLOTMENT.

THIS was the subject of a most useful lecture delivered by Mr. James Seringour in the Dublin Technical Schools on Friday, the 6th of December.

A considerable audience manifested the interest which Dublin Plotholders are taking in getting the most out of their plots, and bodes well for an increased production in the ensuing season.

The lecturer, in common with all the other lecturers who have so generously placed their services at the disposal of the Plotholders, emphasised the need for deep and thorough cultivation of the soil. It is a remarkable fact that all the lecturers, each being a practical cultivator, have reiterated the value of deep digging and, whenever possible, trenching. The same thing is noticeable in the writings of those who contribute the "Month's Work" calendars in IRISH GARDENING and other similar periodicals. These men have all years of practical experience and neither speak nor write idly. It is to be hoped, therefore, that all Plotholders will endeavour to break up their soil as deeply as possible now or before cropping time.

By means of diagrams the lecturer showed the best way of cropping an allotment, so as to utilise the space to the greatest possible advantage. Taking as an example a plot one-eighth of an acre in extent, say 60 yards by 10 yards, he divided it into areas as follows:—First, deep rooting crops, such as Parsnips, Beetroot, Carrots and Onions. These it was pointed out required a deeply worked soil without manure, except for the Onions, which, though forming a bulb on the surface, are known to send their roots far into the soil in search of moisture and food. Being gross feeders, Onions benefit by a dressing of manure being deeply dug in. It is better to have the manure well down so that the roots will seek it and be cooler and moister than if kept nearer the surface. The next division was relegated to fibrous-rooted crops such as Cabbages, Cauliflowers, Potatoes, Celery, &c., and the third division to pod-bearing crops, such as Peas, Broad Beans, Dwarf Beans, Scarlet Runners, &c. Here the lecturer seized the opportunity of explaining to his audience the beneficial effect of pod-bearing crops on the soil: the reason, as pointed out, being that by means of small organisms which inhabit the nodules on the roots these plants are enabled to utilise the free nitrogen of the atmosphere, and consequently accumulate a supply of this valuable fertiliser, which, when the plants are dug into the soil at the end of the season, becomes available for a succeeding crop. The fourth division was devoted to permanent crops, such as Rhubarb, and, if possible, a few bush fruits and Strawberries. The suggestion was made that if every Plotholder took courage and planted a few Gooseberries, Currants and Strawberries they would soon become recognised as part and parcel of allotment gardening, and thieving would soon cease. The idea should not be lost sight of, and we shall have more to say of it shortly.

Having fully described the system of divisions, the lecturer then briefly ran through the methods of cultivating the various crops, recommending the best times for sowing and planting and the

best means of securing a rotation of crops: thus ground which had been cleared of early Potatoes would be ready with little preparation for Broccoli and autumn Cauliflowers, while ground cleared of early Cabbages and Cauliflowers would be available for winter and spring crops of Celery and Leeks: early Peas might make way for Tripoli Onions and late Peas for young Cabbages to stand the winter. By these and other examples he showed how the greater part of an allotment could be cropped almost the whole year round, the only vacant ground being that from which the very last crops were harvested. He also described the management of a seed bed so necessary in spring, and recommended the use of a small frame whenever possible for bringing on early supplies. We hope the time is not far distant when every allotment will have as a complement a portable frame. Many questions were asked at the close of the lecture, and Mr. Seringour was accorded a warm vote of thanks.

CLONMEL ALLOTMENTS.—Mr. Richard Bagwell, D.L., has let at a yearly rent on lease a field of about thirteen acres, close to the town of Clonmel, which will provide one hundred allotments for town workers.

## The Making of a Herbaceous Border—II.

Two other suitable positions for hardy flower borders are:—(1) By a garden wall. For an all-round good border, a sunny aspect is essential, and if a south wall is chosen it will probably also be required for fruit trees: therefore make the border at least 3 feet from it. This will give sufficient root room for the fruit trees and allow a path for use when tending the fruit and flowers. (2) The most delightful situation of all for a border or borders is at the edge or back of a grass plot, when a walk of grass or gravel runs between. These borders, which can be kept a mass of bloom during spring, summer and autumn, result in a picture of never-failing delight. Such borders can be seen at Glasnevin, and amply repay the cultivation and care bestowed on them. Even in winter Epimediums and plants of variously coloured foliage, interspersed with brown decaying stems, show a certain amount of subdued refinement entirely their own, especially noticeable on a bright wintry morning.

The width of a border must correspond with its length. A long curving border, such as at Glasnevin, would lose effect if it were very narrow, and a short one of the same width—about 12 feet—would have no gracefulness in appearance.

If a background of shrubs is desired, these must be chosen not only for effect, but also with a knowledge of their requirements: all gross feeders should be eliminated. Rhododendrons, Azaleas, Escallonias, and Berberises, &c., are useful for this purpose. The herbaceous plants should be at least 3 feet from them.

In planting, bear in mind that a mass of one kind looks much better than a little piece here and there. The large plants—from 4 to 6 feet high—which form the background should be

planted in clumps of from 3 to 5. The plants in these groups should be from 1 to 2 feet apart. The medium sized plants (2 to 1 feet high) from 5 to 7 in a group and 1 foot apart. The smallest plants (6 inches to 2 feet high), for the front, in groups from 5 to 9. These three groupings of plants must not be planted in stiff lines. A tall group can be brought forward here and there to give an informal effect.

When planting, the colouring must not be left out of consideration. Harmonious effects should be the rule rather than the exception, but some contrasts are pleasing exceptions. Bright yellow looks well near scarlet and crimson, and orange can be used to harmonise the last: pale yellows are better near purples and blues: pink is preferable near white or soft blue, and always be careful to avoid killing soft shades of one colour by too bright shades near them. In planning the colour scheme do not forget that a succession of bloom is required all along the border for each month.

IRENE F. RYAN.

## Reviews.

### Jottings of a Gentleman Gardener.\*

THIS book is interesting, if rather uneven, but we make allowances for the author's attempts to deal with so many different branches of gardening, and it may be said the result suffers more from omission than from any want of accuracy. The scheme of the book is good.

The advice on the herbaceous, biennial and annuals sections is generally sound—his lists of plants are usually accurate as to height and colour—but some curious statements creep in—viz., that *Anchusa CAN.*, while *Lupinus polyphyllus* CANNOT, successfully be divided for propagation. Again, that a herbaceous border cannot be a success if made in shade, forgetting the hosts of plants, *Delphinium*, *Aster*, *Helenium*, *Phlox*, *Astilbe*, *Campanula*, *Primula*, &c., &c., provided with decent soil and absence of drip from trees, would make a border more lasting and more restful to the eye, than when made in full sun. We are surprised to hear that *Verbascum* is not perennial, and in the annuals that the various *Leptosiphon* are blue.

The chapters on cut flowers and lists of suitable plants for that purpose will prove useful, and those on ordinary garden operations leave nothing to be desired.

The calendar is carefully compiled, but we may doubt the advantage of raising, from seed, annuals as early as January, except, perhaps, in the cases of *Lobelia* and *Antirrhinum*.

But when we come to the sections on the rock garden and its planting we must part from the author. In his idea of construction he omits all mention of drainage through, or under his rock mounds: his pockets—3 to 9 inches—are far too small, and the planting of one or two plants of each variety would never make an effective rock

garden. Success in this, as in every other form of gardening, lies only in the bold massing of the plants.

His advice, to save initial expense, to cover the rock with such encroaching plants as *Cerastium* and *Linaria* would only entail, for the unwary beginner, the expense of pulling down, and making a fresh site for the plants which he may have propagated in the meantime.

He omits all mention of the different requirements of different plants—granitic or calcareous—and we could only think that his compost for top-dressing—viz., equal parts of loam, leaf-mould and manure—would ensure the death of most true alpine, which would suffer from both "damping" and the lifting action of the frost.

With a wave of his pen he would banish the genus *Primula*! owing, no doubt, to his want of experience of these plants essential to any rock garden.

Very properly, much space is devoted to the garden soil, its treatment and its various pests. These chapters are well done, and in these days of added production of food the amateur, after reading the author's advice, would find in his vegetable plot an increased interest and an increased output.

### Rhododendrons and the Various Hybrids.

THIS is the title of a sumptuous volume by Mr. J. G. Millais, F.L.S., of Compton's Brow, Sussex. A book dealing with the *Rhododendron* in all its phases—botanical, historical, geographical and cultural—has been long overdue. A small handbook by Mr. W. Watson, of Kew, price 1s. 6d., was published about five years ago, but this only whetted our appetite for more about the *Rhododendrons*, including *Azaleas*, which to-day are our most beautiful hardy flowering shrubs.

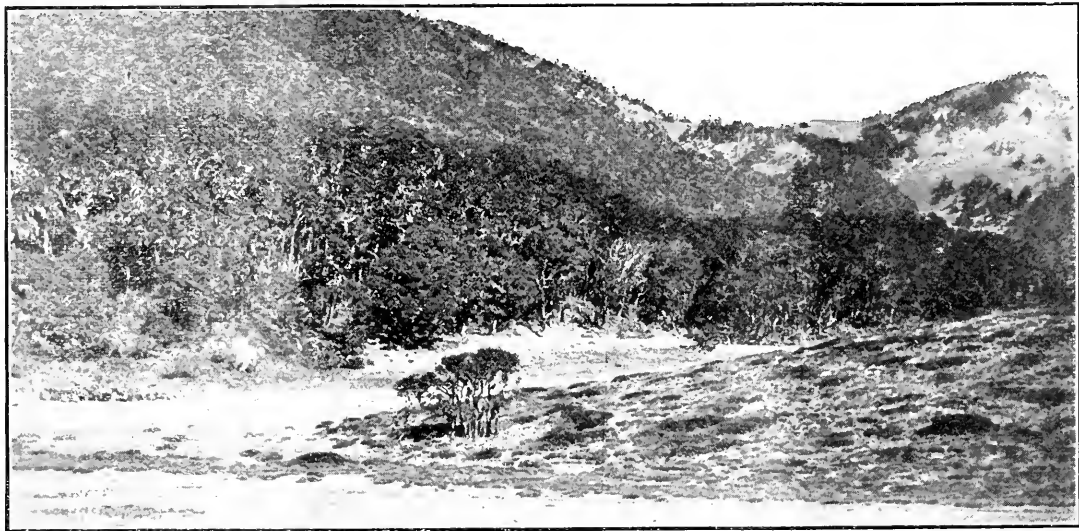
Mr. Millais tells us he is a comparatively new convert to the cult of the *Rhododendron*, one object of the book being to place within reach of the wealthy amateurs interesting and valuable information, which the author found, as a beginner, distributed in a wide variety of books, many of them not easily accessible. Mr. Millais acknowledges valuable assistance in compiling the volume from Sir Edmund Loder, a near neighbour in Sussex; Mr. J. Hutchinson, of Kew, and other *Rhododendron* growers and fanciers.

Published by Messrs. Longmans, Green & Co., 39 Paternoster Row, London, the work is a large 4to volume (16 x 12 ins.), price £8 8s. net. It contains 17 excellent coloured plates, 14 collotype plates and a wide selection of half-tone illustrations. The book is divided into eight chapters, with the following titles:—"Love of Gardening and Gardens," "The General Distribution of the *Rhododendron*," which includes the interesting information that there are 460 good named species and a considerable number collected by Mr. G. Forrest still under number, China and Japan head the list with 280 described species; Malaya, 62; British India and the Orient, 46 each; North America, 17; Europe, 4; Siberia, 3; Arctic Region, 2; and Australia, 1. "Chinese *Rhododendrons*" provides a lengthy and very interest-

\* "Jottings of a Gentleman Gardener." By E. T. Ellis, F.R.H.S. L. Reeve & Co., Ltd., London. Price 3s. 6d.

ing chapter, largely extracts from the writings of Mr. G. Forrest and Mr. E. H. Wilson. "Hybrid Rhododendrons," "Famous Rhododendron Gardens," "Cultivation," "Rhododendron Key," an artificial key to some 280 species of Rhododendrons in cultivation by Mr. J. Hutchinson. Couched in simple language, with few technical terms, this should prove one of the most valuable assets of the book to the grower with an elementary knowledge of botany. The eighth and last chapter is an alphabetical list of Rhododendrons in cultivation, with a botanical description, notes on their cultivation, history and geographical distribution.

and readable form, a vast amount of information about Rhododendrons, and it will not be his fault if the aim of the book, as given in the opening preface, expressed thus, is not attained:—"My object in writing this work is to supply a book that may be of practical use to the gardener who only possesses a love of beautiful plants and does not trouble himself with too much science." Handsomely bound, "Rhododendrons and the Various Hybrids" is a book for the wealthy amateur's bookshelf, to be frequently consulted for reference and to provide light and interesting reading about an increasingly interesting subject of the pleasure grounds and park.



CHINESE RHODODENDRONS

Sungkwei Pass, with *R. fastigiatum* in foreground. Photo by Mr. George Forrest.

To compile a monumental work such as this would tax the capabilities of our oldest Rhododendron growers. To Mr. Millais, a comparatively recent convert, the task was a very big undertaking, even with the ready help of several noted growers. The further assistance of a literary editor with some botanical knowledge, to correct and systematise the proofs, would have avoided numerous mistakes in spelling and botanical inconsistencies.

To-day, with the introduction of so many new species to our gardens, the possibilities of the Rhododendron appear unbounded. Ranging from dainty alpine—a few inches high—in the rock garden to large spreading evergreen bushes and trees 50 feet high, provide our pleasure grounds with an abundance of good things. After the war, when our young men who are spared return to the gardens and plants they love, Mr. Millais' book will impress many with the glowing future of the Rhododendron and its possibilities in the hands of the capable hybridist.

The book is limited to 550 copies. The Editor has collected together, in a particularly pleasing

## Concrete and Constructional Engineering.

VOLUME 12 of this most interesting journal is to hand, and, like all the previous volumes, is full of information regarding the use of concrete. Much of the matter is of a highly technical nature, nevertheless everyone in anyway connected with or interested in building will find much valuable information within the covers. In country districts, especially estate owners and agents, gardeners, farmers and foresters should keep themselves informed as to the advances recently made in concrete constructional work. When some of the illustrations of huge buildings, bridges, barges, boats and dams are studied the thought occurs how simple it would be comparatively to erect farm and garden buildings where stress is less in evidence.

Attention is drawn to a Cottage Competition in connection with the Government Scheme for the housing of the working classes in England and Wales.



## School Garden and Allotments.

THE connection between school gardens and allotments is more close than is sometimes realised. This has been recognised in providing instruction for allotment holders, the great majority of whom are unused to gardening work. The terms used in the garden are frequently as unfamiliar to the allotment holder as they are to the boy at school, and it becomes necessary to arrange that the instruction is definite and easily understood. The operations of trenching, double digging and ordinary digging are often misunderstood. The twofold functions of farmyard manure, the supply of plant food and the im-

cultivation must be taught. In many cases the tools to use and the methods of handling them must be described and practically demonstrated.

There are at present no figures available showing the energy wasted by wrong methods in digging for garden crops, but in other occupations it has been shown that better work can be done by a smaller expenditure of energy when tools are specially adapted to the work in hand. One definite case may be mentioned where by lengthy experiments it was shown that for the work of shovelling loose materials a shovel of 21 lb. capacity produced a greater output under the best conditions for the employee than either a larger or a smaller implement.



CHINESE RHODODENDRONS

*R. oreotrephes* in its Natural Habitat. Photo by Mr. George Forrest.

provement of the physical condition of the soil—need to be insisted upon. The corrective effect of lime seldom receives the attention it deserves. On the other hand, many beginners have been puzzled by the contradictory advice given regarding the most suitable varieties to grow on an allotment and the various manures recommended for particular crops.

Some years ago attention was drawn to the indefinite character of the advice given in gardening literature. Since that time considerable strides have been made, but in connection with allotments it is not realised that the efforts of the allotment holder are nearly always limited, not only by his lack of knowledge, but by his lack of capital and by the lack of time.

Allotments cannot be profitably cultivated by the methods found suitable in a private garden. Simpler methods, involving less labour and less capital, must, in the great majority of cases, be adopted. The question therefore arises, what are the essentials on which a system of instruction must be built up, what must be taught, and what in the early stages, at any rate, can be omitted? To begin with, the importance of early and deep

In examining men for the army in England it was found that a considerable percentage of agricultural labourers had permanently injured their working capacity by their uneducated methods of lifting heavy weights. It is such questions as the correct methods of doing work which need the early attention of the instructor, and if he is able to explain the reasons such methods have been adopted and to demonstrate their superiority, he will find his advice is very generally followed.

With the development of allotments there is an increasing demand for the services of gardeners who can give advice to plottolders. Many gardeners have already proved their capacity as advisers and instructors, but a man may have both the knowledge and ability enabling him to produce good crops and still lack the ability to induce others to do the same. The problem is a difficult one, but if care is taken to be definite and accurate and to omit the unessential points, the gardener will find his long and usually varied experience winning for him the respect and gratitude of any allotment holders to whom his advice is offered.

L. J. H.

## The Pine Trees of the Rocky Mountain Region.\*

By G. B. SUDWORTH (Dendrologist), in United States Department of Agriculture.

A MONOGRAPH on the dendrology of the different species of pine tree (*Pinus* sp.) that inhabit the Rocky Mountain region. The exact limits of the territory covered by this publication are given in a preceding article of the writers. Some 70 species of pines are known in the world: 36 of them grow in the United States, 14 of the latter being found in the Rocky Mountain region. Six of these Rocky Mountain species occur also in the Pacific slope region, and 1 ranges eastward from the Rockies in Canada into the Atlantic Coast country (*Pinus Banksiana*). The cones of some Pines may remain closed for several, or many seasons: those of one American species (*Pinus albicaulis*) never open naturally. This explains how certain Pines often reproduce themselves after a forest fire.

The Pines described are divided into 2 large groups:

**WHITE PINES:** *Pinus monticola* Douglas known as Western White Pine, this must not be confused with the true White Pine, *Pinus Strobus*, the wood of which tree it now largely replaces—Lumber Pine (*Pinus flexilis* James)—White Bark Pine (*Pinus albicaulis* Engelm.)—Mexican white pine (*Pinus strobiformis* Engelm.)—Mexican pinon (*Pinus cembroides* Zuccarini), this tree has the heaviest wood of all the Rocky Mountain Pines: it is used only for fuel and other domestic purposes: the seeds are edible—Pinon, or Nut Pine (*Pinus edulis* Engelm.), the seeds of this Pine are eaten by the Indians and settlers—Single-leaf Pine (*Pinus monophylla* Torrey and Frémont) the only single-leaved Pine of North America: the seeds are also much used for food—Bristle-cone Pine (*P. aristata* Engelm.).

**YELLOW PINES:** Arizona Pine (*Pinus arizonica* Engelm.)—Western Yellow Pine (*P. ponderosa* Lawson) is one of the most majestic of the Pines of N. America: in general, the height is from 125–140 ft. with a practically clear trunk of from 40–60 ft., while some trees are said to have attained the height of over 200 ft. It produces one of the most valuable woods of the Rocky Mountain region: the wood is, however, only moderately durable in contact with earth, or when exposed to the weather in an unprotected state—Apache, or Arizona longleaf Pine (*Pinus apachea* Lemmon)—Chihuabua Pine (*P. chihuahuana* Engelm.)—Lodgepole Pine (*P. contorta* Loudon)—Jack Pine (*P. banksiana* Lambert).

## Berberis Prattii.

**BERBERIS PRATTII**, which the late Editor of IRISH GARDENING described as the finest fruiter of all the numerous new Barberries from China, is surpassing itself this year, and in the nursery at Killiney at present all the growths, save those of the current year, are laden with brilliantly coloured berries—salmon-scarlet, with a lovely plum-like "bloom." The erect habit of this Barberry renders it of greater value as an orna-

mental fruiting shrub than the now well-known *B. Wilsona*, which, although a beautiful plant, partially hides its fruit under its semi-prostrate stems. The lovely berries of *B. Prattii* are well displayed, and on 17th October I cut a branch about 3 feet tall, thickly clustered with berries from tip to base. *B. Prattii* is not a shrub which appeals only to shrub fanciers. It is one that *everybody* will like, and it can be grown in any garden. I think it one of the most delightful and most striking of all shrubs when in fruit.

J. M. W.

## Apple the Rev. W. Wilks.

THIS is certainly one of the most striking apples of recent introduction. Raised in the Middle Green Nurseries, Langley Slough, it has quickly come into favour, and already in England it is often seen on the exhibition table. It is remarkable in bearing fruit in quite a young state, in fact I have seen it in the nursery lines at Langley: each tree, probably two years old, bearing several fruits of large size. Trees four and five years old crop freely, the size of the fruits being a feature, and the vigour of the variety being so great that cropping thus in the young state has evidently no adverse effect on growth. The fruits are conspicuous in colour as well as size, the skins being of a peculiar greenish-white colour, easily discerned from a distance.

The variety seems particularly suitable for small gardens where a free-fruiter kitchen Apple is required.

## Fruit Culture in Queensland.

FRUIT growing is being actively organized in the aegis of the Department of Agriculture in Queensland, and commercial fruit growing is ever becoming more popular. The largest increases in area during the year have been those put to deciduous fruits, including grapes, in the Stanthorpe district: bananas and pineapples along the coast, citrus fruits from the coast inland, followed by custard apples, papaws, passion fruit, &c.

Not alone in the Stanthorpe district has grape culture increased, but it has received quite an impetus in many parts of the State, and a considerable amount of correspondence in this connection has been dealt with. The principal centres for this branch of the fruit industry are Roma and Brisbane Valley for wine and table varieties, and Pinkenba, Stanthorpe, and Rockhampton for table grapes.

Some years ago the Department was in possession of one of the best and most complete collections in the Commonwealth of table, wine, and resistant varieties, at the then State Farm at Westbrook. Since losing control of that Institution, unfortunately, through bad seasons and neglect, the best portion of this collection has been lost, and it is now of the utmost importance to establish another collection for the purpose of distributing varieties adapted to the localities of our varied climate. With this object in view, a convenient area of land, situated on the Brisbane Valley line, has been obtained, and will shortly be planted with the best selection it is possible to get this season from within this and other phylloxera-proof States.

\* "Monthly Bulletin of Agricultural Intelligence and Plant Diseases."

## Obituary—Andrew Campbell.

THE death of Andrew Campbell, of St. Anne's, Clontarf, arouses a keen feeling of sorrow in all gardening circles in Ireland, and is a great loss to the country. He was well known to almost all connected with gardening, both to garden owners and to gardeners, and was equally respected and



THE LATE MR. ANDREW CAMPBELL.

esteemed by all. A man of a modest and retiring disposition, he never pushed himself, and kept so much in the back ground that his merits were sometimes overlooked, and not fully recognised. A more intimate acquaintance with him, and above all a walk round the garden with him, soon revealed the depth of his knowledge and the extreme accuracy of his observations and deductions.

Few men showed such skill in the cultivation of all classes of plants, both indoor and outdoor, and under very diverse conditions, as Campbell did. All who visited St. Anne's will remember with pleasure his success as a grower of fruit, and of such varied subjects as Cyclamen, Carnations, Orchids, pot Violets, alpinists, herbaceous plants. He excelled in all, a feat which cannot be accomplished by any ordinary man. Again, as a lecturer, or when criticising a paper, he showed remarkable acumen, and depth of thought, not harsh or disparaging, but encouraging, and always with a kindly and helpful word for the young gardener. The following extracts from a touching tribute written by Lady Ardilaun is the highest testimony which can be paid to the character of one of the best and most estimable gardeners we have known in Ireland for many years, and whose loss we all mourn.—F. W. M.

"In his own line he was a distinguished man. He came to St. Anne's in the year 1869 at the age of 17: he was a boy in the Bothy when I married and came there in 1871. He rose to be foreman, and, after some years, went to my cousin, Harry Herbert, of Muckross, and to the Railway Hotel at Killarney, as Head Gardener. In these two places he remained for 6 years, and then came to us at Ashford as Head Gardener, where he was for 14 years, and returned to St.

Anne's in 1895, so that he has been with us for the whole of his working life, 18 years, with the exception of the 6 years that he was at Killarney. As you know, he raised the fine Lobelias, Firefly, Lord Ardilaun and Gloire de St. Anne's, besides other seedlings which we did not name, and he was the first raiser of a seedling from the white Anemone Honorine Joubert, which he named Lady Ardilaun, and which at the time made a great sensation, and was noticed by French nurserymen. He also raised at St. Anne's the charming little Rose, Souvenir de St. Anne's. He was a man of very great gardening skill, a most charming personality, so very modest about everything that he did, and he took the greatest interest in the smallest garden that he was ever asked to visit. He helped me to lay out the whole of the Pergola garden at St. Anne's, interpreting every wish I ever expressed and every plan I ever formed. I do not remember ever having had a disagreeable word with him all the years we worked together. He was the most loyal and devoted friend, his one thought was to please me in the garden. I think I was exacting, being so keenly interested, but the more I wanted done the more he worked to carry out our schemes, and he enjoyed it quite as much as I did, and used to talk with such affection of our dear garden. He suffered terrible tortures during his long illness to my great sorrow, but he bore it all with unflinching courage and patience. I saw him the day before he died, and he said his great hope was that I would continue to love the garden, and to take care of all the plants that he had raised, and to remember him in connection with them."

## Functions of Lime.\*

- (1) Lime supplies an essential plant food.
- (2) It sweetens sour land. Some soils, especially peat, contain an excessive quantity of acid or sour matter. Lime renders this acid harmless, and encourages the growth of more nutritious plants.
- (3) Lime improves the physical condition of the soil. It helps to bind light sandy soils together, and opens up stiff clays, and makes them more easily cultivated.
- (4) It sets free potash. Some soils contain a large quantity of potash, but not in a state in which it can be of service. Lime helps to set part of this potash free from the combinations in which it exists in the soil, and renders it available for the plant.
- (5) Lime prevents, or at least minimises disease, such as finger and toe in turnips. For this purpose it ought to be applied the year previous to that in which turnips are grown. Where a field is badly infested with this disease, the rotten turnips should be left on the ground, and the field should get a good dressing with lime.
- (6) Lime favours the decomposition of organic nitrogen, and assists in the process of nitrification, or in other words it assists to make nitrate in the soil. As already explained, we have three distinct forms of nitrogen—viz., nitrate.

\* From Leaflet 17, Department of Agriculture and Technical Instruction for Ireland, October, 1901.

ammonia, and organic nitrogen—and that only the former is available as plant food. The other two have first to be converted into a nitrate. This is brought about by the agency of germs, or bacteria in the soil. Before those germs can perform their work, they must have fresh air moisture, a suitable temperature, and lime. We can now understand why it is desirable to have lime in the soil, and why it is we often see such marked effects after its application. When we apply lime to soils containing old dung and the roots and refuse of former vegetation, we are simply starting a manufacture for the production of this costly ingredient, nitrate. Some soils contain as much nitrogen per acre as 100 tons nitrate of soda, and yet if we apply 1 cwt. nitrate we see the results in a few days. What is the reason for this if we have so much nitrogen already present? The reason is that the nitrogen being in the organic state is of no service to the crop.

Nitrification is at a standstill, very likely owing to a want of lime. We may notice in this connection that sulphate of ammonia has to undergo the same change, so that where sulphate of ammonia is applied, sufficient lime must be present if we are to derive full benefit.

We have so far looked at one side of the question, and noticed the benefits to be derived from the judicious application of lime. Let us now turn to the other, and see the effects of applying lime without giving sufficient manure along with it. If we were asked the question, does lime improve or exhaust the soil, we would be very apt to answer in the affirmative; but on due consideration the answer should be, that unless the land contains an almost inexhaustible supply of material for the lime to work upon, or unless plenty of manure is applied along with the lime it may not effect an improvement? Nitrate of soda has been said to act as a "whip," or a scourge on the land. The same may be said about lime when injudiciously used. If you apply the whip to your horse you must give plenty of oats along with it. The whip alone will not bring him to his journey's end. Neither will lime alone produce a good crop, and keep the land in condition. It may stimulate it for a year or two, but the final result will be poorer crops, and an exhausted soil. This may sound like false doctrine, but it is no new theory; our forefathers were perfectly well aware of this fact, as is evidenced by some of the old sayings which they have handed down to us, such as "Lime makes a rich father, but a poor son," and also

"Lime and marl without manure  
Will make both farm and farmer poor."

### Club Root.

THE disease known as club root or finger-and-toe (see Leaflet No. 77) appears to be becoming more general. It is caused by a minute living organism which occurs in infected soil and gains entrance to the seedling plants through delicate hairs on their roots. If protection is given to the seedlings and to the young transplanted plants, the attack of the disease may be warded off. To give this protection it is essential that the seedlings should be grown in soil which is known to be free from club root; and in those cases where soil is known

to be infected the seed-bed must be sterilised. This should be done either by heating the soil, or if that is impracticable, by a very thorough liming of the soil with quicklime.

This should be added in powdered form to the soil at the rate of from  $\frac{3}{4}$  lb. to 1 lb. to the square yard, and dug in. This should be done in the autumn, well in advance of the sowing period, though so long as the lime is applied two or three weeks before planting, no harm will result when the plants are put in. Similarly, liming of the soil in which the crop is to be grown will, if it is done thoroughly, eradicate the pest. Unless free from the pest, land should not be used for growing plants of the Cabbage tribe.

Where gas lime is obtainable, this material may be employed for the same purpose as quicklime, but in that case the soil must not be planted for two months afterwards. It is most important that growers should understand that seedlings, although they may not show much (or any) sign of the disease may, if they have been raised on infected ground, be already attacked by the disease; and, if such seedlings are planted on uninfected land, they will of a certainty cause that land to be infected with club root. It is, therefore, desirable that those who intend to purchase seedling plants of the Cabbage tribe for transplanting should not do so unless they are sure that the seedlings are from uninfected land.

The presence of small nodules on roots shows the infection in an early stage; and under no circumstances should diseased plants be either planted or allowed to lie on cultivated ground, but should be burnt forthwith. Besides Cabbages, Turnips, Swedes, Mangolds, Kohl Rabi, Lettuce, Cauliflower, Broccoli and Savoy are all liable to attack. Those who use quicklime for the purpose of freeing the soil from club root must remember that this substance is caustic and will burn hands or clothes unless proper precautions are taken. The lime should be spread on a still day and dug in at once. The quicklime should be purchased as quicklime, and must be finely ground. If lumpy, it is of no use; and it must be kept in a dry place.

### Growing Broad Beans with Potatoes.

THE old system of growing broad beans among Potatoes is worthy of consideration at the present time. During the past season there have been numerous cases of successful crops with this association.

The important points to observe are as follow:

- (1) The variety of Potato should be a "first early," or at least an early or "second early," and not a variety producing rank haulm.
- (2) The Broad Beans should be placed between the Potato sets at the time the Potatoes are planted.
- (3) The tops should be pinched out of the beans as soon as pods are set at five nodes.

When the Beans are planted in the same row as the Potatoes they may be put in every row, and in the case of early Potatoes closely planted—two Beans between each plant.

This season Mr. Gardiner, of Croydon, grew a good crop of Beans amongst early Potatoes, the latter producing a crop of about 16 tons per acre.

## The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

WHEN we had our first copy of the IRISH GARDENING for 1917 all our thoughts were directed towards food production and how to get the most out of the ground at our disposal. Both professional and amateur gardeners have done a great deal during the past year towards food production, but we must make even a greater effort during the coming year. Now is the time to begin; no matter how small your plot of ground may be do not despise it; it is wonderful what an amount of vegetables can be got out of a few square yards if properly cultivated. Work in the vegetable garden during the month of January mainly consists of digging and trenching. I do not think trenching will be carried out to any great extent this winter owing to the shortage of labour; but, at any rate, we can have the ground deeply dug and thrown up roughly; this will make things easy when sowing and planting time comes, besides the benefit the soil will derive from being exposed to frosts. No opportunity should be lost of collecting all available manure or anything that will make manure. Those who used to depend on the farmyard for their supply will now find there is not enough to go round owing to the Compulsory Tillage Act. Collect as many oak and beech leaves as possible for hot-beds. No doubt the greater part of the leaves has been swept up ere this, but there is always plenty more to be had by going out into the woods for them; those that are not wanted for hot-beds will make excellent manure mixed with stable litter and garden refuse. Towards the middle or end of the month sow Onion seed in boxes and place in a warm greenhouse; if very large bulbs are not required it will not be necessary to transplant them until they are planted where they are to mature. Stir the ground between Cabbage plants with hoe when weather is fine; look over frames of Cauliflowers and Lettuce plants and remove all decayed leaves; give abundance of air on all favourable occasions. Sow Tomato seed in pans in heat, also a little Lettuce seed, it is sure to come in useful. Put some more Rhubarb and Seakale sets into gentle heat to succeed those that are already in. Prepare material for hot-beds by mixing stable litter and leaves in equal portions; turn the heap a couple of times to sweeten it. If beds are to be made in the open they should be made larger than the frame intended to be placed on them, at least 15 inches should be projecting on all sides of the frame. Sow early Peas and Broad Beans on a warm border, also French Beans in 7 or 8 inch pots and place in a temperature of 60°; to keep up the supply, sow a few pots every two or three weeks. Look over Seed Potatoes, and

stand early varieties on their end in boxes to sprout.

### HARDY FRUIT GARDEN.

Much has been done in recent years to improve the fruit crop in Ireland; the increasing demand for good fruit and the high prices obtainable should encourage anyone who has the means of doing so to plant freely the class of fruit most suitable to the district. Travelling through the south of Ireland one constantly comes across old orchards that must have been planted centuries ago. You rarely see any fruit on the trees larger than good crabs, and yet their owners cling to those old orchards like some cherished heirloom; nor can you make them understand that the same space planted with good approved sorts of Apple trees would produce ten times the present value.

The planting of all kinds of fruit trees should be pushed forward now, but it is work that never pays to hurry over. Always make the hole large enough to allow the roots to be spread out to their fullest extent; have some good loam chopped fine and mixed with leaf-mould to place about the roots. If the tree requires staking, place the stake in the hole before filling in the earth; by so doing you run no risk of breaking the roots. Make the soil around the roots as firm as possible. Planting should never be done in wet weather, wait until you get the ground fairly dry; before planting remove all broken or damaged roots with a sharp knife. Look over new plantations of Strawberries, hard frosts are liable to loosen the young plants. Cuttings of Gooseberries and Currants should now be inserted. Select young shoots with a piece of the old wood attached, clean off all the buds half way up the cutting, place them in rows 6 inches apart and 15 inches between the rows. Black Currants should not have the buds taken off, as the shoots from the ground usually bear the best fruit. Bullfinches will now be getting troublesome, and means must be taken to destroy them or protect the bushes from their ravages; slacked lime and soot mixed and shaken over the bushes will render the buds distasteful to them. Where birds are particularly troublesome it is a good plan to delay pruning as long as possible.

### THE FLOWER GARDEN.

CHRISTMAS ROSES.—Frames or hand-glasses used over these will keep the flowers clean and induce longer flower stems.

HERBACEOUS BEDS.—If those have not already been forked over they should be taken in hand at once; at the same time work some well rotted manure in between the plants. Where any plants are getting too large and encroaching on their neighbours it is best to lift clean out of the ground and plant back some of the best pieces.

Antirrhinum and East Lothian Stock should be sown this month in pans in a warm greenhouse; give air to all bedding stuff in frames on mild days. Any one who has a heated frame or greenhouse can now commence to increase his stock of bedding plants if more are required.

## Midland and Northern Counties.

By E. RUTHERFORD, Gardener to C. W. Dunbar  
Buller, Esq., D.L., Woburn, Donaghadee.

### THE KITCHEN GARDEN.

WE are now at the mercy of the weather and must shape our course accordingly. During heavy rain keep off the ground, but be prepared to go on it as soon as fit. During hard frost wheel out manure and lay it in heaps ready to spread. If the weather is open and dry, get all spare ground dug and thrown up as rough as possible, that the action of the frost may take effect upon it, and if time permits trench a spare plot. In order to do so, open a trench three feet wide across the plot and take one spit deep and shovel off the loose earth and wheel to end of plot. In bottom of trench put in a layer of farmyard manure, and dig it in, then place more manure on the top, and mark off another three feet and throw top spit on the open trench and shovel on the loose earth; prepare next trench in same way and continue until finished.

We must use discretion in sowing seeds during this month, but on warm, dry sheltered borders Broad Beans may be sown. Most of the long-pod section are nearly as early as the smaller sorts and are far more profitable. Towards the end of the month some of the earlier sorts of Peas may be sown. The Pilot, Sangster's No. 1 and William the First are suitable varieties.

Hot-beds may be made for forcing Carrots. Stable manure and leaves may be collected and mixed together and allowed to ferment. The bed may be made 4 feet deep and 3 feet wider than the frame and trodden tightly together, then place frame in position. A layer of soil should then be placed on the bed to a depth of 8 inches. When this has been done level with a rake and firm moderately.

Wait a few days until the heat moderates before sowing seed, which should be covered with finely-sifted soil to a depth of half an inch. Early Gem and French Horn Carrots are the best. Lettuce seed might be sown for an early batch, also Radishes and Cress.

Onions must be sown in boxes or in frames on hot-bed for planting out in April. Owing to the shortage of labour, sowing thinly in hot-beds would be more advisable, as they need not be pricked off, but can be left in the bed until planted in their permanent quarters. If the soil is in good order very little water will be necessary until germination takes place, but the surface may be lightly damped on fine sunny days, and when seedlings appear give a little air on fine days.

Where an early batch of Peas is desired sow in pots, or troughs can be made out of waste wood in convenient sizes; place in heat until the seeds appear, then place them in a cool house or frame close to the glass, and protect from frost. Give plenty of air on fine days and gradually harden off.

Seakale may be forced. This may be done under greenhouse stages or in warm cellars; it must be grown in perfect darkness. When the roots are lifted for forcing, young straight thongs should be kept and be prepared for planting later on. Cut them 6 inches long and tie in small bundles and cover with sand or coal ashes about 6 inches deep.

### THE HARDY FRUIT GARDEN.

Gooseberries may be pruned during this month; a sufficient number of last year's growth must be retained at suitable distances and shortened to about 9 inches and the remainder spurred back to two or three eyes; keep centre of bush open; any branches close to the ground should be cut away, as the fruit is liable to be damaged.

Black Currants produce their fruit on spurs and the young wood of the past season. All young growth should be encouraged, and remove as much old wood as possible.

Red and White Currants may be pruned same as Gooseberries.

Get all Apple and Pear trees finished pruning by end of month, if possible, and all trees on walls should be made secure, so that there will be no danger of the branches becoming loose during the season.

Any fruit trees that for some reason or other have to be replanted should be done as soon as weather permits.

### THE FLOWER GARDEN.

Cuttings of Calceolaria, Viola, and Pentstemon should be ventilated in mild weather, and all decaying foliage should be removed.

Wallflowers and other bedding plants should be firmed after hard frost and the soil stirred up.

PLANTING BULBS.—Narcissuses, Jonquils and Crocuses may still be planted in light dry soils.

Protect tender shrubs and plants if not sufficiently hardy to stand severe frost. Shrubs planted in autumn should be protected at their roots by spreading bracken or litter over the surface to prevent frost injuring the roots.

## A Land of Peaches.

### FRUIT GROWING IN ONTARIO.

PEACH growing is largely associated with Ontario, and the industry goes far back in the history of the province. The first record of Peach growing in Ontario is from the diary of a resident in Niagara, July 2nd, 1793, who stated that they were very small and highly flavoured. The next record appears in the journal of Captain Langslow, who visited Niagara in 1817, and spoke of Peaches as being "very plentiful." In 1856 Mr. C. E. Woolverton, of Grimsby, planted five acres of commercial orchard of such varieties as Barnard, Crawford, Old Mixon and Mountain Rose, and was the first to ship by express to distant Ontario markets. When the late King Edward, then Prince of Wales, visited Toronto in 1860, on the menu card of the Queen's Hotel occurred the words "Brown's Peaches," showing that the trees must have been planted years before that date. It was not, however, until about the year 1890 that Peaches were planted generally. In the years following this date they were planted very heavily. By 1905 the industry had grown to such proportions that the supply was scarcely equal to the demand. In 1904 the first car was sent west as far as Winnipeg. The following years saw heavier shipments and the extension of markets elsewhere. Generally speaking, the growth of the industry has been steady, and prices have been such that the greatest quantities ever produced in Ontario are being marketed at the present time.—*Canadian News Items.*

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# Irish Gardening

## Contents

	PAGE		PAGE
Picea bicolor (Illustrated) . . . . .	17	The Fruit Industry . . . . .	27
January Flowering Plants (Illustrated) .	18	Irish School of Gardening for Women	27
The Servian Spruce (Illustrated) . . . .	20	Potatoes Grown from Single Eyes . . . .	28
Soil Fertility . . . . .	21	Gardening Lectures . . . . .	28
Lectures for Plotolders . . . . .	22	The Onion . . . . .	29
Earliest Spring Sown Peas . . . . .	23	Manure and Fertilizers . . . . .	30
Allotment Observations . . . . .	23	The Month's Work—	
Friends and Foes of the Plotolders' Crops	24	Southern and Western Counties	31
Points for Plotolders . . . . .	25	Midland and Northern Counties	32
Dublin Corporation Land Cultivation Committee . . . . .	26	Rainfall for 1917 . . . . .	32



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# IRISH GARDENING

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1918

EDITOR J. W. BESANT

## *Picea bicolor*,

By PROFESSOR HENRY, M.A.

*PICEA BICOLOR* is one of the rarest conifers in cultivation. The existence of a fine example at Glasnevin, which produced cones in 1917, induces me to give some account of this interesting species. The genus *Picea* is divided into two sections. In one section, to which the common European spruce (*Picea excelsa*) belongs, the needles are 4-sided, as is readily seen when one is cut across, each of the sides being marked with one or two white lines. In the other section, to which the Sitka Spruce (*Picea sitchensis*) belongs, the needles are flattened, presenting two surfaces, namely, a convex green surface without any lines, and a flat surface marked by two conspicuous white bands, each band made up of six to eight white lines. In *Picea bicolor*, which is a spruce with 4-sided needles, there is an attempt made, so to speak, to combine the characters of both sections. Two of the sides are green, each having one or two lines, but the other two sides are each marked with a white band of six to eight lines. At first sight, then, *Picea bicolor* looks like a flat leaved spruce, as its leaves seem to have a green surface and a white surface; but on closer examination the 4-sided character of each needle is apparent. This species is unique in the genus in this peculiarity of the leaves.

*Picea bicolor* is also peculiar in the extreme variability in the amount of pubescence on the twigs. In young trees all the twigs are quite glabrous, there not being the trace of a single hair. In older trees, the main twigs are often covered with minute hairs while the lateral twigs remain glabrous. In other spruces the presence or absence of hairs on the twigs is a definite characteristic of the species, being

uniform on all the twigs and in all ages of an individual tree. The white spruce (*Picea alba*) for example is quite hairless throughout its life on all its twigs; while the black spruce (*Picea nigra*) has all its twigs hairy from early youth to old age. This variation in the pubescence of the twigs of *Picea bicolor* is difficult to explain; and deserves further study. In Japan where the species occurs in a wild state on many of the high mountains of Central Hondu, but nowhere common, the leaves are also variable in size and shape, being short ( $\frac{1}{2}$ -inch) and very sharp-pointed in young trees; and longer ( $\frac{3}{4}$ -inch) and blunt pointed on old trees.

The cones, which are about 3 inches long, and somewhat similar in appearance to those of the common spruce, are also extremely variable in the shape of the scales, which are obovate to rhombic, appressed or more or less reflexed at the point, which is broad and rounded or narrowed, usually with a finely toothed margin.

Owing to the variation in the leaves and cones, certain varieties (*reflexa* and *acicularis*) have been distinguished by the Japanese botanists Shirasawa and Koyama, but E. H. Wilson believes that "these variations have no taxonomic value," and I am inclined to agree with his opinion. *Picea bicolor* is again remarkable on account of the different names which have been given to the species. It was originally discovered by J. G. Veitch in 1860, who intended it to be named after Sir Rutherford Alcock, the British Minister at Tokio. Unfortunately, the species which he sent home were mixed with those of another species, and Lindley's name "*Abies Alcockiana*," was accompanied by a description of the leaves of



BRANCH CONE PICEA BICOLOR.

the Japanese flat-leaved spruce (*Picea hondensis*), and of the cones of Veitch's newly discovered spruce. Such a name, based on material of two species cannot be preserved. The name *Abies bicolor*, given to it by Maximowicz, has been changed, as it is a spruce and not a silver fir, to *Picea bicolor*, Mayr, which is the correct name. The name *Picea Aleoekiana* of Carrière disappears altogether, and is not the name of any spruce.

*Picea bicolor* was first introduced into England by J. G. Veitch in 1861. Seed was subsequently sent to St. Petersburg by Tschonoski in 1865, which was distributed by Regel under the name *Picea japonica*. More seed sent again to St. Petersburg in 1868 was called *Abies acicularis*, Maxim. These names must also disappear as being later in date than *Picea bicolor*. The young tree with sharp leaves and glabrous branchlets, which was formerly called *Picea acicularis* must now be called *Picea bicolor*.

The tree at Glasnevin, of which a photograph is given, was obtained from Barron & Sons in 1886, and is now 25 ft. high, the stem being 2 ft in girth at five feet from the ground. There is also a smaller tree at Glasnevin, obtained from Dickson's Nursery, Chester, in 1900, which is 18 ft. high by 11½ inches in girth. Both trees are thriving. There is a good tree at Pencarrow in Cornwall, which bore cones in 1900. Another tree, about 20 ft. high at Hollycombe Gardens, Liphook, bore cones in 1914. There is also a good specimen at Bieton in Devonshire. There is also a fine tree in the Segrez Arboretum in France, and two large trees, about 40 feet high in the Hunnewell pinetum, Wellesley, Mass., U.S.A. There are also two trees at Kew.

## January Flowering Plants.

It is remarkable the wealth of flowers one may find in a well-stocked garden, even in so bleak a month as January. Those who rely on plants raised or propagated annually for a display miss half the charm of a garden. There is now such a wide and varied selection of plants—tree, shrub, herbaceous and Alpine—that no outdoor garden need lack interest and beauty at all times of the year, even if tender summer flowering things were not grown at all. During the month that is just over the following have been quite attractive and most enjoyable on cold, bleak days. Certainly what sun there was greatly improved them all, but the point is, that in spite of frost and snow, their attractiveness was but temporarily dimmed, and the first hint of mildness found them smiling again:—

*Lonicera fragrantissima*.—From December onwards this charming Honeysuckle continued to open its fragrant flowers. It grows against a wall in a not very sunny aspect, yet annually produces abundance of flowers on shoots of the previous summer's growth. The plant suffers not at all from the fact that its attractions result in considerable pruning, for the buds open beautifully in water, and were the shoots not cut, so that the flowers might be enjoyed indoors, they would require shortening back in spring when the flowers were over. A native of China, and introduced some seventy odd years ago by Robert Fortune, one of the pioneers of plant collecting in the Flowery Land which has given us so many treasures, and which, if report speaks true, will yet give many more.

*Chimonanthus fragrans*, the Winter Sweet, and one of the most delightful plants of the outdoor garden in January. In some districts it will grow as a bush in the open and produce its sweet-scented blossoms, but here a sunny wall suits it best, and gives that warmth the shoots require in summer to ripen them, and induce them to form flower buds. A native of Japan, introduced over 150 years ago, this is an old plant in gardens, yet not so often seen as it would be were its merits more widely known. The variety *grandiflora* has larger flowers, said to be not so strongly scented, though the writer has not observed much difference. In the type the flowers are composed of papery bracts merging into transparent yellow sepals and petals, the inner petals shorter and streaked with reddish purple. The variety has larger flowers with less colour in the centre. This, too, should have the shoots cut back in March, when the flowers are over.

*Jasminum nudiflorum*.—An old and valued friend, never failing to give a show of flowers from early winter to early spring, according to the weather. When mild the plant is covered with its yellow blossoms, which, if frost occurs, wilt, but are immediately replaced by a fresh relay when the thaw comes. To get good results a wall is best, except in mild localities, and a thinning out and a shortening of the branches in spring is beneficial. The plant is hardy in the open, but does not usually flower so freely. A native of China introduced by Fortune.

*Prunus subhirtella* var. *autumnalis*.—This appears to be the latest name for a very beautiful cherry introduced to cultivation in this country by Mr. T. Smith, of the Daisy Hill Nurseries. At first known as *P. Miqueliana* and then as *P. microlepis*, it has now, I believe, been described as above.

In "Trees and Shrubs," Mr. Bean describes it under the name of *P. microlepis*, but whichever is the correct name there is no confusion as to the merits of the plant. Commencing in December the flowers continue to open right on to March, and even April, and as the spring advances becomes quite showy. Even in January, despite variations between hard frost and rain, the plant was easily noticeable in a shrubbery. The flowers are semi-double, with a faint tinge of pink, and in addition are sweetly scented. A slow grower, and not apparently ever attaining a large size, this should be a useful plant in a small garden.

*Prunus Davidiana*.—Another native of China, and an early flowerer. It grows fast in good soil in a sunny position, making long slender shoots on which the flowers begin to open in January, but the best display is not until some weeks later. The flowers and buds are more susceptible to frost than in any of the above-mentioned plants, and an annual display is not so certain. In the writer's experience, the half-opened buds if once frozen rarely revive, and it would perhaps be well to plant where the early sun would only gradually reach them. Shelter from the north and east by means of evergreens is an advantage, and a light well-drained soil assists the ripening of the young wood. The typical plant has white flowers, but a variety called *rubra* has rosy pink blossoms, and is perhaps more showy than the type.

*Erica mediterranea*.—The Mediterranean Heath has been flowering since December, and is a most welcome sight in the dark months. Associated with Rhododendrons it is delightful and is valuable as a shelter to the dwarfier

species when young. There are numerous varieties of this Heath, some remaining quite dwarf and others growing to 4 ft., and reaching a height of four or five feet. All are useful and effective, but the dwarfed forms flower earliest, and it is possible they are all really what used to be called *E. medius hybrida*. This is the early-flowering hybrid between *E. mediterranea* and *E. carnea*, and which should now be known as *E. darleyensis*, which name was given by Mr. Bean after the nursery at Darley Dale where it first appeared. Although some plants seem deeper in colour than others, this may be due only to the position or soil in which they are growing.

*Erica carnea*.—This delightful plant was not so forward in January as the hybrid above-mentioned, but the white variety, *E. carnea alba*, was in full flower. It, too, is charming so early in the year, and looks very pretty in association with dwarf Rhododendrons. It may also be grown in the ordinary shrubbery, for it is one of the few *Ericas* that will grow in ordinary soil, and does not object to some lime.

*Rhododendron lapponicum* is a pretty little plant for the rock garden. It has been opening



PICCA BICOLOR

In the Arboretum, Glasnevin.

its flowers at intervals throughout January; the flowers are difficult to describe, but may be called purplish blue, contrasting well with the small rough dark green leaves and scaly twigs. An elevated position in peaty soil seems to suit it, and is perhaps reminiscent of its native habitat on the high mountains of Europe, Asia, and W. America.

*Rhododendron dauricum*.—The weather has been cruel to this ever pleasing species, and most of the buds were spoiled by frost. A few of the rosy purple flowers opened early in the month, but their beauty was short-lived, and the buds which were mostly in an advanced state towards the middle of the month gave up the struggle and turned brown. A northern exposure would probably suit this Siberian plant best, as there the buds would not so easily be coaxed into flower by a treacherous spell of mild weather, nor so readily damaged by sun after a frosty night. Nevertheless this is a shrub one would not like to be without, for in favourable seasons it becomes a mass of rosy purple, carpeted round with spikes of *Erica darleyensis*, and then who will say January is a bleak month?

*Clematis balcarica*.—Covering an archway and rambling over a trellis, this wonderful climber is now flowering freely. The flowers are by no means brilliant, yet freely dotted about among the dark bronzy green foliage, they are at once noticeable even on a dull, cold January day. The flowers which are creamy white spotted inside with dark dots are very attractive when viewed from underneath. Although a native of Minorea and Corsica, the plant is quite hardy and survived the severe winter of 1916-17 with no injury except the loss of the leaves, and during last summer quite revived and grew vigorously. Although most commonly known by the above name, it is correctly called *C. calycina*.

*Iris unguicularis*—more often called *I. stylos*.—This delightful native of Algeria loves a hot sunny position at the base of a wall, and prefers rather poor soil and a confined root run. In such a position it will often begin to flower in December and continue till February. The plant makes a dense mass of long narrow leaves from among which the flowers are pushed up. The flowers are lavender blue marked with yellow and white in the throat, and have a delicate fragrance. There are several varieties, notably a pure white one, *I. speciosa*, with more striking flowers than the type, and *Elizabethæ* with a more prominent colouring of lilac and white.

*Iris reticulata sopheneensis* is one of the early flowering bulbous Irises pushing up its flowers before the leaves in late December and early January. As grown here the flowers are light blue, though the colour is said to vary. It is a most attractive plant at this season and flourishes at the base of a sunny wall in fairly rich soil mixed with lime rubble and sand. It is one of the most satisfactory of the early flowering bulbous Irises, and has increased in vigour and in numbers for several years.

*Galanthus Elwesii* was the earliest Snowdrop to open and was blooming in the first days of the year. It is one of the giants of the genus with large pendant flowers and robust broad leaves. Growing among deciduous shrubs it seems to be establishing itself, and will in time perhaps form a pretty feature.

*Hellebores*, or Christmas Roses, are blooming profusely, though it has to be admitted that those which are afforded the protection of a handlight or a frame are far superior to those left to the mercy of the elements. There are some very fine forms of *Helleborus niger* in Ireland, seedlings raised by enthusiasts of a former generation. They are characterised by the large size of their flowers which, especially under cover, are of the purest white.

*Crocuses* have not been much in evidence lately, but early in the month *Crocus lævigatus Fontenayensis* was full of flowers; they are of a pretty light lilac heavily flushed with purple, quite free flowering and most attractive in a sheltered nook of the rock garden.

B.

## The Servian Spruce.

### *Picea Omorika*.

This beautiful and interesting spruce grows wild on both sides of the Drina valley which separates Servia and Bosnia. Its area is comparatively restricted, though ranging in altitude from 2,700 ft. to 5,300 ft. It is said to grow in the wetter parts of the ravines, but does not there attain such a height as it does in the rockier parts of the mountains. It occurs naturally on limestone soil, and in cultivation thrives in limestone districts in moist soil. This is evidenced by the fine condition of the specimen illustrated herewith, which is growing near by the river Tolka in the Royal Botanic Gardens at Glasnevin. The specimen at Glasnevin was obtained from Messrs. James Veitch & Sons, in 1890, and is now about 32 ft. high, with a girth at five feet up of 23½ inches; it is therefore a fast grower while young.

Mr. H. J. Elmes, F.R.S., in the "Trees of Great Britain and Ireland," relates how he visited the Drina valley to see *Picea Omorika* in nature. He suggests that it is not likely to have any value as a forest tree in this country, since the wood has not been found to have any special value. This is to be deplored as so fine a tree might otherwise very well take the place of the Douglas Fir in the limestone districts



THE SERBIAN SPRUCE, *PICEA OMORIKA*.  
In the Botanic Gardens, Glasnevin.

of Ireland. In any case it is well worth planting for ornament, and being apparently perfectly hardy might possibly make an effective and handsome shelter belt. The habit is pyramidal, the branches being short in comparison to the height, and turning up at the ends, displaying in the most attractive way the silvery under surface of the leaves. The leaves are flat and linear,  $\frac{1}{2}$  an inch or sometimes nearly an inch long, arranged mostly in two horizontal rows on the branchlets, but a few of the uppermost leaves pointing forward in line with the branch. The younger branches are furnished with a short dark brown down.

I have not seen cones, but they are described as egg-shaped,  $1\frac{1}{2}$  to 2 in. long.

On the whole, this is a most desirable spruce which should be planted freely, and one would like more detailed information regarding the quality of its timber.

J. W. B.

## Soil Fertility.

UNTIL quite recently it was generally believed that through constant cropping the soil in the older tilled areas was slowly losing its fertility, and to this belief may be credited the origin of the alarmist speeches that are so prevalent at present. Apart from our recent knowledge of the wonderful relationship of the microscopic soil organisms to fertility, the soil contains an abundance of the necessary elements for plant growth (although in a form not at present available). That these locked up stores can and will be liberated is only a matter of time. To believe otherwise is to place a limit on man's capabilities, which the scientific progress of the last century does not warrant. Our present knowledge of soils and manuring of same is yet in its infancy.

To insure the yield per acre of all food plants should be the aim of all cultivators in the coming season. That deeper and more thorough cultivation can increase the yield the horticulturist has long held as one of the principles of his craft, and this, in his shortage of manures and fertilisers, the agriculturist should not forget. That it is only by their root hairs that plants can absorb the minerals dissolved in the film water attached to the particles of soil we are prone to overlook, and the finer we break the soil the more numerous the film bearing particles will be, and consequently the larger will be the area for the root hairs to absorb through.

A. McL. MAY.

## *Adonis amurensis*.

THIS attractive little plant from Siberia, commonly known as the Ox Eye, is now to be seen flowering in Glasnevin, its proper flowering time is February. How welcome it is just now, when everything looks so bleak. Though small, standing only about 1 foot high, its yellow, saucer-shaped flowers and elegant fern-like foliage are very charming. Its double form, *A. a. fl.-pl.*, with golden outer petals and olive-green centre, is a great favourite. *A. vernalis* glories in March and April sunshine, when it gives its glistening yellow, three-inch wide flowers. All prefer deep, rich, light sandy loam and sun-warmed places. Avoid root mutilation and winter division. Spring is best. A zinc collar placed round the plant is a wise precaution.

M. E. O'F.

## Lectures for Plotholders.

### THE CULTURE OF POTATOES.

A CONTINUATION of this series of lectures was given in the Dublin Municipal Technical Schools on January 18th. The lecturer was Mr. J. P. Drew, A.R.C.Sc.I., Manager of the Model Farm, Albert Agricultural College, Glasnevin.

Stating that the Potato is a native of Chili, the lecturer briefly related two stories regarding the introduction of the Potato. One theory is that the tuber was introduced by Sir Walter Raleigh and planted in his garden at Youghal, where at first it was thought very little of. Another theory is that it reached Ireland from America in ships trading from that country to Ireland. Here we may quote from the Dictionary of Gardening, which says: "The date of its introduction to Britain is a matter which has undergone much discussion, but the plant is generally believed to have been brought from Virginia to Ireland in 1585 or 1586 by Thomas Herriot, who accompanied Sir Walter Raleigh in several voyages. The Potatoes introduced by Herriot were planted near Cork; but the value of the tubers as food does not appear to have been recognised for a very long period afterwards."

Proceeding, the lecturer dwelt on the question of varieties, mentioning the enormous number which has been cultivated from time to time. For first earlies he recommended Ninetyfold, Epicure and Duke of York; second early, British Queen and Sutton's Abundance; late, Arran Chief, Champion and U1-to-Date. Black Skerry and Champion were recommended for their long-keeping qualities, but the former is a light cropper, despite its excellent qualities.

**SPROUTING.**—In recommending sprouting for the early varieties, the lecturer gave the dimensions of a standard sprouting box, viz., 24" x 12" x 3", but for Plotholders it was pointed out practically any shallow box would do, as the quantity to be boxed is comparatively small. By means of specimens, Mr. Drew showed examples of good and bad sprouting. The sprouts should not be too long, about an inch or so, at planting time, stout, and with the characteristic colour of the variety developed in the sprout. If the sprouting is not proceeding satisfactorily it was recommended to place the Potatoes in a dark place, free from frost, but immediately growth commences light should be gradually admitted, otherwise the sprouts will be weak, long and colourless and useless for planting; a specimen with a long weak sprout was shown as also a properly sprouted tuber. Good planting tubers should be about the size of an egg.

**ADVANTAGES OF SPROUTING.**—These include an increased yield of from 1 to 2 tons per acre, which has been proved by experiment; the purity of the seed can be checked by means of the colour of the sprouts; planting can be delayed until the weather is favourable and the soil in good working condition. That is to say, that there is no need to risk planting too early while the weather is unfavourable, as the Potatoes are doing quite well and gaining time sprouting quietly in the boxes. The lecturer explained that sprouted tubers planted in the end of February would be ready as soon as unsprouted samples planted in January, assuming the latter to escape

injury by frost. To sum up the advantages of sprouting, we have, then, a heavier yield, an earlier crop and a purer crop.

**SOIL.**—Like other plants, the Potato has its ideal in soils, and that, said the lecturer, might be called a deep rich loam. There are now so many varieties, however, that successful crops were constantly grown in sandy soils, boglands and heavy clays. The quality of the soil is very largely influenced by cultivation.

**WHEN TO BEGIN PLANTING.**—For first earlies, the end of February was recommended. By planting much before this there is great risk of the haulm being too far advanced in April and May, thereby running grave risk of being irretrievably damaged by frost. For mid-season varieties, the middle of March is a good time, and for main crops the beginning of April.

**SPRAYING.**—This important and essential detail in cultivation the lecturer took pains to impress on his audience as a preventive and not a cure for the dreaded "Blight." That is to say, it is useless to wait until the disease manifests itself ere proceeding to spray. The disease, as it appears on the leaves, was graphically described as resembling mildew on old boots or stale bread. The spores by which the disease attacks the leaves enter largely through the pores on the underside of the leaves. The upper exposed surface is less liable to attack, hence the imperative necessity of well coating the under surface with the spray fluid. Sunlight, it was pointed out, is against the Blight, and bad attacks are rare in dry sunny seasons.

**HOW THE TUBERS ARE AFFECTED.**—It was formerly thought that the fungus causing the Blight grew down through the stalks and so reached the Potatoes; but now it is known that when the disease has reached the fruiting stage—that is, when new spores are formed—they drop to the soil below, and so get washed into contact with the tubers, which they immediately infect. To minimise the risk of such infection, moulding up, earthing or landing should be done thoroughly, as a thick layer of soil over the tubers makes it difficult for the spores to reach the Potatoes.

**SPRAY MIXTURES.**—Those in common use are Bordeaux mixture and Burgundy mixture. The two are about equal in effect, but the latter is generally the more easily prepared. Burgundy mixture is made from copper sulphate and washing soda dissolved in water: 8 lbs. of copper sulphate of 98 per cent. purity, 10 lbs. of washing soda 98 per cent. purity, to 10 gallons of water. To make a smaller quantity, say 10 gallons, use 2 lbs. copper sulphate, 2½ lbs. of washing soda. Dissolve separately, then pour the washing soda solution into the copper sulphate solution and stir thoroughly. The mixture should then be ready for use and should be used at once. Test the mixture by dipping into it a piece of blue litmus paper, which will remain blue if the mixture is right, but if it turns red add more washing soda until the blue colour is retained.

A warning was given against the malignant Black Scab disease for which no satisfactory cure has been found. It is not yet very prevalent in Ireland, but has given serious trouble in parts of County Down. Some varieties have proved immune to this disease, notably the following, which are selected from the *Journal of the Board of Agriculture*, November, 1917:—Earlies—A. 1



(Sutton), Resistant Snowdrop (Dobbie), Edzell Blue, recommended for gardens and allotments, Second Earlies King George (Butler), Great Seal (McAlister), Southampton Wonder, Main-crop varieties—Abundance (Sutton), Burnhouse Beauty and Langworthy.

In the white round or oval section we note The Lochan and Leinster Wonder among others, and in the coloured round or oval section Irish Queen and Shamrock are fairly well known.

Food Production Leaflet No. 21 gives full details of the trials and can be had gratis and post free from the Secretary, Board of Agriculture and Fisheries, 3 St. James's Square, London, S.W. 1.

Mr. Drew concluded an excellent lecture with advice on the proper storing of Potatoes, emphasising the need for air and protection from frost.

## Earliest Spring Sown Peas.

VERY few indeed are those who do not eagerly await the first dish of Peas, and, thanks to the untiring efforts of our leading seed houses, varieties are now catalogued that will, under favourable conditions, yield plentiful supplies of delicious Marrowfat Peas early in the month of June from spring sowings. There are several varieties to be found in every list, varying in height from one to four feet, but for the earliest crop I pin my faith to a variety known as Early or Little Marvel, a Pea growing about two feet high, and which comes to maturity quickly and produces a heavy yield of Peas neatly in pairs, and, if carefully gathered, will provide several pickings.

Such a variety as the above is eminently suited for the narrow south border, and, in my estimation, one that should appeal especially to amateurs and others who sometimes experience difficulty in securing support for the taller kinds, whereas this variety is almost self-supporting, in fact it may be grown and perfected without the aid of supports, but I would strongly recommend the use of a few twiggy sticks, as the keeping of the growth in an upright condition not only economises space, but must help to secure a greater yield and renders the gathering of the crop much more easy and affords protection from vermin.

A capital plan to adopt is to sow in rows ten feet apart and crop in between with other early vegetables, such as Potatoes, Carrots, Turnips, Spinach, &c., when the Peas will form natural shelter for the intervening crops. Sowing may either be done in boxes or pots and raised under glass and gradually hardened off prior to planting out, or they may be sown direct into the ground as soon as the soil is in workable condition, and if the protection of a few odd lights or plant protectors is given them, germination will be quicker. The latter method entails less labour, but the crop will hardly be ready as soon as by sowing and raising under glass even in a cold frame. Whichever practice is adopted protection must be afforded from mice, and damping red seed with a little linseed oil and coating with the lead will usually prevent destruction, although

even then they do get disturbed, and trapping should be done. Whether sown outside or planted, staking should be done as soon as possible and at the same time a few spruce branches or something similar placed on the easterly or exposed side. Never attempt to sow or plant unless the ground is in good order, and then avoid treading the surface by using boards to walk upon. Sowing should not be done too deeply, rather draw up a little soil to the plants before staking. Take out a shallow, but wide, drill two inches deep, and sow more thickly than for main-crop supplies. Encourage a fine tilth by forking over the ground and allowing the surface every opportunity to dry. Slugs are very troublesome, and are best kept at bay by the sprinkling of a small barrier of coarse cinder ashes beside the rows, and dustings of soot or lime will help to ward them off as well as helping to stimulate growth. Wood ashes incorporated into the surface at the time of sowing or planting is of the greatest manurial assistance.

E. B. (Fota.)

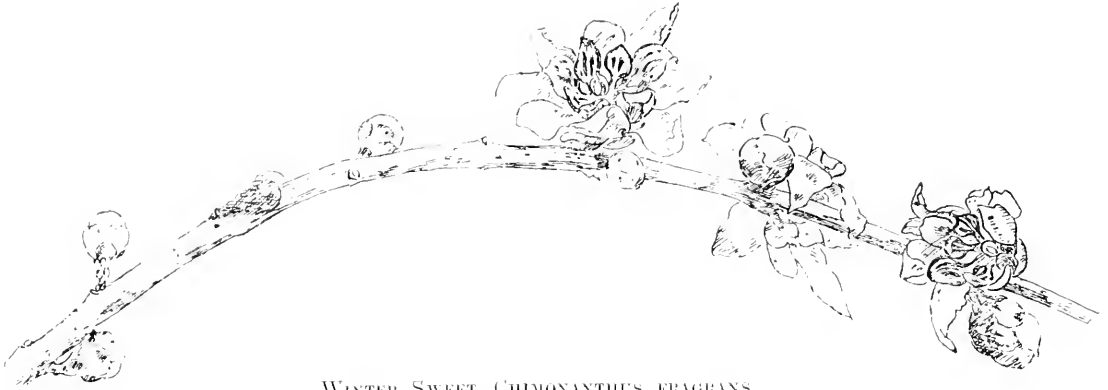
## Allotment Observations.

By J. HURLEY, Superintendent, Corporation of Dublin Land Cultivation Committee.

THE work on the allotment during the past month consisted chiefly of manuring, digging and double digging the ground. It is pleasing to have to record that plotheolders now realize the advantage of leaving the soil rough when they throw it off the spade. There are many ways by which an allotment may be treated at this time of year, but drilling, which is so easily done, does not receive the attention which it deserves. Whether the ground drilled be required for Potato growing or not it is beneficial work, more especially on land which is inclined to be wet and heavy. The drill helps to keep the soil dry, and by so doing it provides for its earlier working, which may consist of its preparation for seed sowing or early transplanting.

Last year the purchase of seeds, the cultivating and manuring of the allotment were carried out in a rush; this should be avoided this year. If Potato "seed" has not been secured by the plotheolder he should immediately set about buying his supply, no matter whether early or late varieties are required. To have some tubers ready for digging early in June, plant about a stone of "Duke of York" or "Sharpe's Express" in February, and depend on "British Queen" to give a succession with a good yield. It will be remembered by those who grew "British Queen" last year that they were a good second and a much better crop than those called first earlies. It will be interesting to plotheolders to note that the Corporation have taken steps to secure a supply of "seed" Potatoes for the coming season.

Hopes are entertained by 1,200 intending plotheolders that the Corporation Land Cultivation Committee will be able to supply sufficient land to provide them with  $\frac{1}{2}$ -acre each, as a result of the recent Local Government Board inquiry.



WINTER SWEET (*CHIMONANTHUS FRAGRANS*.)

(See p. 18.)

## Friends and Foes of the Plotholders' Crops.

BEFORE considering the various pests and diseases which are apt to become troublesome to the plotholder who is keen to get the best results out of his allotment it might be worth while considering some of the friends of the plotholder, as well as the primary causes which tend to make plants unhealthy and more liable to attack by diseases and pests.

I remember, while at Kew, seeing a little Austrian pushing a big burly Scotchman on one side, because the latter was about to put his foot on a fœtid rose beetle, or devil's coach horse, as it is commonly called; remarking at the same time that any good gardener ought to know his friends. Plotholders should also know their friends, so that when they enter on a war against plant enemies they will know who are their friends and who are their enemies. Amongst the most useful animals of the allotment—more particularly during the winter season—are the birds. This is always a thorny subject for discussion amongst gardeners; it would seem in the majority of cases that "The evil that they do lives after them, the good is oft interred with their bones." There can be no gainsaying the fact, however, that were all the birds exterminated that are considered injurious there would be a far more serious shortage of food than even at present owing to the plague of insects and other pests which would multiply without much check. On the allotment, more particularly in winter, various birds, such as the robin, pewee, thrush, blackbird, starling, hedge sparrow, seagull, wag-tail, and crows, do a great deal of useful work in hunting out slugs, wire-worms, and other grubs, &c.; during the spring and summer some of these—more particularly the starling, crow, and house sparrow—are apt to do a considerable amount of damage. Due precautions should be taken at such seasons to prevent injury to the seeds and crops.

**EARTHWORMS.**—Worms are often regarded by plotholders as animals to be cut or killed at every opportunity, despite the fact that so much has been written with regard to their general usefulness. On heavy soils, where they often abound, they are particularly useful.

The numerous tracks left by the worm as it

burrows through the soil act as drainage channels and also assist the entry of air, which is so much needed in such soils. Then again, as the worm eats its way through the soil, digesting a portion only of the material it consumes, it leaves the waste matter in the form of castings at the surface of the soil, where it gradually washes down to the roots of plants. The plant foods contained in such castings are generally in a more available or soluble state than prior to their passage through the worm's intestines!

**FROGS.**—These feed upon slugs and beetles, and ought to be encouraged.

**CENTPEDES.**—These are generally considered useful, as they feed to a large extent on other animals, while their cousins, the millipedes, are considered more or less harmful to crops. The former can be distinguished from the latter by their having one pair of legs on each segment of the body, and also in being generally flattened, brownish in colour, and comparatively short, while the latter have two pairs of legs on each segment, are more rounded, yellowish in colour, and have a long wriggly body.

**SLUGS.**—The testacella, or ear-shelled slug, is not a very common animal; it is conspicuous inasmuch as it carries on the outside, at the extreme end of its body, a little, or rudimentary, shell. It is usually yellow in character; it feeds voraciously on other slugs and soil grubs, and should therefore be encouraged. The more common slugs which do not show a shell on their exterior cannot generally be regarded as friends of the plotholder.

Amongst useful insects are the ground beetles, lady bird beetles, devil's coach horse beetle, hover or hawk flies, lace wing flies, and ichneumon.

The ground beetles, which vary in size according to the species, are fairly plentiful on most soils, especially sandy soils; they feed mainly on other insects and their larvæ or grubs. The devil's coach horse which, owing to its short wing cases, appears to be made up of four principal divisions instead of the usual three divisions, does similar useful work, while the lady bird, of which there are several species, and hover fly are specially valuable where aphides are plentiful (and where

are they not?), inasmuch as their larvæ, which develop from the eggs which are often deposited near a cluster of aphides, feed voraciously on these extremely troublesome plant lice. A specially interesting group is the so-called ichneumon fly. These "flies" deposit their eggs within the bodies of caterpillars, feeding on cabbages, &c. From the eggs arise short, whitish grubs which feed in the interior of the caterpillar, and only affect the vital parts as a rule, after the caterpillars have stopped feeding.

At this stage the caterpillars may be observed on walls, trees, &c., and emerging from them the grubs, which spin their "cocoon" and change into chrysalids, from which, in the spring, the next generation of ichneumons arise. The chrysalids of these "flies" can easily be distinguished by being pale yellow in colour, just less than a quarter of an inch long, and about a twentieth of an inch in diameter. They are usually found congregated in clusters, and ought to be taken care of rather than squashed as is so often the case. The caterpillars thus attacked usually die. Amongst other useful forms of life in the soil are certain beneficial bacteria of which there are various forms, some of which bring about chemical changes in manurial elements in the soil, changing by a series of processes ammonia, &c., into nitrates—a particularly valuable plant food. Others fix the free nitrogen of the air, and make it available for the use of plants; others again fix themselves within the roots of leguminous plants, such as peas and beans, causing as a result of their occupation the development of the nodules to be found on the roots of such plants. This group of bacteria also obtain the nitrogen from the air and the plants benefit accordingly. Other groups of bacteria, as also certain fungi, bring about the decay of organic substances in the soil, thus setting free certain plant foods which would otherwise be "locked" up.

Generally speaking, the useful bacteria only develop rapidly and work efficiently in well-drained, well-aerated, and limed soils, or, in other words, thoroughly cultivated soils.

W. H. J.

(To be continued.)

## Points for Plotholders.

**DIG DEEP AND SAVE MANURE.**—Stable manure and manure from the byre are now very difficult to obtain, and not a few plotholders will be worrying over the lack of both. Under present circumstances it cannot be too strongly emphasised that deep cultivation and light manuring are far better than surface scratching and heavy manuring. Every soil contains a large amount of plant food, but it is not in a form available for the plants until the soil has come under the influence of air. It is a well-known fact that under normal conditions of moisture the top few inches of soil are the most fertile because they are directly under the influence of air. To render the subsoil fertile dig at least two feet deep, loosening and breaking up the soil so that air can penetrate deeply and so that, following the fertilising effect of the air, the roots of the plants can ramify freely in search of food. Deep cultivation in winter and spring and constant surface cultivation all summer will, in a large measure, compensate for lack of farmyard manure.

**SOW AND TRANSPLANT TO ECONOMISE SEED.**—Whenever possible it is better to sow a small quantity of seed in boxes or in a seedbed and transplant rather than sow a large quantity of seed in lines and finally have to thin out more than half of the seedlings. It is, of course, customary to make seed beds for all such things as Cabbages, Cauliflowers, Sprouts, Kale, &c., but there is no reason why the same should not be done for, say, Onions. Onions sown in a box early in February would be ready to transplant on to the plot by the middle or end of April, and would be much in advance of seedlings from seed sown in the open in March. The box need not be more than three or four inches deep, and of any convenient size and shape. Openings must be left in the bottom for drainage, placing over them some cinders or broken bricks to prevent clogging. Make the soil fairly fine, especially on the surface, and moderately firm, neither as hard as a brick nor so loose that it will dry out rapidly. Sow thinly and cover the seed with a quarter of an inch, not more, of fine soil, then give one good watering and cover the surface with a sheet of brown paper until the seedlings appear. The box may be kept in an outhouse, or even a kitchen window, until the seeds germinate, and should then have all the light possible. As the seedlings develop give them water only when the soil is dry, and encourage them to make sturdy growth by putting them outside in mild weather, taking them in at night or in case of cold frosty winds.



GIANT SNOWDROP *GALANTHUS ELWESII*.

(See p. 20.)

## Dublin Corporation Land Cultivation Committee.

ANNUAL REPORT, 1917.

THIS document is now before us and contains much interesting reading. The report comprises a complete record of the work done by the committee from its inception. The difficulties which had to be surmounted were considerable, and it reflects greatly to the credit of the members and staff that in the short time at their disposal they were able to provide such a large number of allotments in and around the city. A standard rent of 16 s was charged for each allotment of one-eighth of an acre; in a few cases this was modified to suit exceptional circumstances. The largest areas acquired were Marino, 50 acres; Island Bridge, 31 acres, and at the Model Farm, Glasnevin, 29 acres. Various other areas, varying from one-half acre to 16 acres, were obtained in various parts of the city, and thus a large number of applicants obtained plots fairly convenient. It is most satisfactory to be able to announce, as stated in the report, that the Board of Public Works has arranged to provide an additional 20 acres at Island Bridge. This action of the Board will be much appreciated, and shows an excellent example to private owners, who, it is to be hoped, will show an equally generous spirit in letting available land for such a laudable object.

The Department of Agriculture, in order to encourage the movement and to ensure the Plott-holders being able to get the most out of their plots, offered to bear the cost of salary and travelling expenses of a qualified instructor. The offer was accepted, and our friend, Mr. James Hurley, who had been doing similar work for the Vacant Land Cultivation Society, was appointed, and we can endorse the committee's appreciation of Mr. Hurley's efforts: he worked, as we know early and late, week-day and holiday, to help all who required assistance and advice.

Later on Mr. Thos. Murphy was appointed to assist in the allotment of the plots, in distributing seed Potatoes and in spraying during the summer. Six temporary instructors, to act on Saturday afternoons and holidays, were also appointed, as it was impossible for one man to get over all the areas, which were very much scattered. A great deal of credit is due to the City Treasurer, who acted as secretary, ably assisted by Mr. Murphy. Owing, however, to the enormous amount of work devolving on the secretarial staff it was found necessary to provide a clerk, and this was effected by the transfer of Mr. Patrick Brophy from the City Engineer's Department. The surveying of the land and the setting out of the plots were carried out by the Engineer's staff, and we have previously commented on the excellent way in which this was done, facilitating easy access through and among the plots.

The local administration of the various plot areas was entrusted to Committees of the Plott-holders themselves, who were responsible for the collection of the various charges. The Land Committee procured about 80 tons of seed

Potatoes for sale to Plott-holders at a price just sufficient to cover cost, carriage and cartage. Sprayers and spraying materials were also provided, and the Cleansing Committee provided a large quantity of manure to the various areas. To stimulate interest among the Plott-holders the committee conceived the excellent idea of offering prizes, and a sum of £94 11s. was subscribed by various public men and firms. An account of the competition has appeared in a former issue of IRISH GARDENING. The plots were inspected in July, and the judges reported very favourably on them. The prizes were distributed in the Round Room of the Mansion House, as reported in this Journal.

Quite recently an Irish Plott-holders' Union has been formed similar to those already existing in Scotland and England, and the Local Government Board has sanctioned the appointment of two members of the Union to act on the Land Cultivation Committee.

About 2,000 additional applications have been received for plots, and an earnest endeavour is being made to satisfy the applicants. We wish the committee every success in their quest for additional land.

Owing to the amount of work devolving on the City Treasurer, it was found necessary to transfer Mr. Berkery, of the Accountant's Department, to perform the duties of Secretary to the Committee, and as such he is now acting. Mr. Berkery is a qualified accountant, and will bring expert knowledge to bear on the miscellaneous work of the committee.

The charges on the committee for the season amounted to £2,620 11s. 7d., there being a deficit at the end of the year of £709 0s. 5d. This is not to be wondered at considering the initial difficulties to be overcome and the present high cost of necessary materials. For the comfort of all, however, we hope to see this wiped out ere the next annual report appears. The report is signed by Dr. Sherlock, Chairman of the Committee.

## Irish Food Control Committee.

SIR THOMAS STAFFORD, Bart. of Rockingham, Boyle, and Mr. Martin McDonagh, of Galway, have been invited to join the Food Control Committee for Ireland, and have accepted the invitation.

## Tropæolum tuberosum.

This is a bright, tuberous-rooted, climbing plant from Peru. Old established plants are often seen in mild and sheltered places, but it is not hardy everywhere, and where it shows signs of tenderness it is best to lift the tubers after the stems have died down and replant again in the spring. It flowers late in the season, often if untouched by frost, well into November. The leaves are roundish, and slightly bold, dark green, and the flowers are bright orange and scarlet on long slender stems. A poor soil suits it well, and it only asks a little support for its shoots.

R. M. P.

## The Fruit Industry.

## IMPORTANT DEVELOPMENTS IN IRELAND.

For years the Department of Agriculture has been working hard to stimulate and encourage fruit growing in Ireland, where the climate is very suitable for many of the most profitable varieties. As our readers know, much has been done in establishing orchards of Apples in the north, where cooking varieties are largely grown, as well as bush fruits, and in the south, in the Suir Valley and neighbouring districts, where superb dessert varieties are produced and cooking kinds as well.

It is gratifying to know that the success attending the growing of fruit for market has induced private manufacturing firms to launch out into producing fruit for use in their own factories. We learn that Messrs. Williams & Woods, the well-known jam manufacturers and confectioners, have acquired a large farm near Kilsallaghan, County Dublin, which they purpose converting into a huge fruit garden. Already considerable progress has been made, we believe, in breaking up and cultivating the land by means of motor power, and it is hoped to plant a considerable area this season. Mr. James Scrimgeour has been appointed manager, and brings with him a long experience of fruit growing in Ireland. Mr. Scrimgeour was one of the Department's early county instructors, and for the last ten years was garden manager at the Albert Agricultural College, where a very large collection of Apples and bush fruits is grown on commercial lines in conjunction with vegetables, which are grown among the fruits as well as in a large area adjoining.

We have every hope that this new venture will eventually prove a great success, and we believe every year has passed Messrs. Williams & Woods will have many competitors, and not only will the home market be supplied with abundance of wholesome, health-giving fruit, but that a considerable surplus will be available for export either fresh or preserved, and thus the industry will materially help in building up that export trade without which no country can be truly prosperous. Mr. Scrimgeour has been an occasional contributor to our pages, and we wish him every success in his new appointment.

## Canada Alive to the Forestry Question.

## CANADA'S TIMBER RESOURCES AS AN AFTER-WAR ASSET.

CANADA possesses the largest forests in the British Empire. This fact emphasises Canada's strategic position. What part Canada's forest will play in British trade after the war is problematical, but there is no lack of evidence to show that every square mile of growing timber will double its value under the strain of *post-bellum* demand from the devastated districts of Europe. Meanwhile, those responsible in Canada are taking advantage of increasing timber values by thorough fire protection and scientific control of wasteful lumbering.—*Canadian News Items.*

## Irish School of Gardening for Women.

SITUATED about one mile from Terenure, in County Dublin, this institution has lately been the subject of notice by Mr. Stephen Gwynn, who wrote of it in the *Irish Times*. The following is an abstract:

... How many people in Ireland know that for five pounds a year a woman can get a sound education, practical and scientific, which will fit her, if she chooses, to earn money, or if she prefers, to save it. The ordinary course is two years: first year, roughly, vegetable gardening and the cultivation of the soil; second year, flowers and fruit.

... Three things have specially pleased me in my observation of this new venture. The first is the element of improvisation—learning to do without ideal conditions and to make use of what is to hand. The school started practically without capital, with no subsidy but a small grant from the Department proportioned to the number of hours' work done by the pupils, and the more regular the work the better for the school. They took over a field under the Allotments Scheme, and they were kindly allowed the run of an existing garden to experiment on. This was like the majority of Irish gardens with which I am familiar, and like all that I have loved best. The Apple trees afforded great scope for instruction in pruning; ... the Gooseberry bushes had become small thickets—it was interesting to compare those dealt with, making young wood, light and air let in everywhere, with bristly survivors of the old order. On the walls new cordon trees ranged between veteran Pear and Plum for which the best had been done that science could do. ...

Generally the genius of the school seemed to incline in a severely practical direction. There was not much of what the Army calls "spit and polish" in evidence. ... Production was the object, not trimness.

I admired too the resourcefulness with which a loft had been converted into a handy lecture room, in which the scientific side of the teaching goes on. When more elaborate appliances are required, lectures are given (on chemistry and botany, for instance) at the College of Science, and personally conducted tours to the Glasnevin Botanic Gardens familiarise the students with more hothouse work than can be done at the school, or even in the greenhouse put at their disposal by the head of Trinity Hall. ... This all makes part of my second ground of admiration—the pupils like it. They enjoy the comradeship, like that of a university, and they enjoy the work. ... My third reason is that the school brings its pupils in touch with a real man of science, who is a real enthusiast.

Professor Houston started the idea (with good help from the *Irish Times*), developed it, and directed it throughout. He had the genius to discover another enthusiast to carry out his design. Mr. Johns was supervising Allotments in Belfast when Professor Houston (in his own words) "lifted him out of that" and transplanted him to Dublin. The persuasion used was that the work had national importance. So it has.

## Potatoes Grown from Single Eyes.

THE following note on potatoes grown from single eyes appeared in the Bulletin of Miscellaneous Information (Nos. 4 & 5, 1917) recently issued by the Royal Botanic Gardens, Kew:—

The shortage of seed potatoes in the spring of 1917 created a good deal of discussion in the Press as to the advisability of cutting tubers for planting into small sections instead of planting them whole. In order to test certain assertions as to the heavy yield from small scraps of tubers containing single eyes, the following experiment was conducted under conditions available to every allotment holder.

In January, 1 lb. of tubers of Kerr's Pink and 3½ lb. of tubers of Lochar were obtained from Scotland. The Kerr's Pink were very small and were 15 in number. The Lochar were much larger; the exact number was not kept. All were at once placed in boxes and put in a light room from which frost was just excluded. Little progress in sprouting was made before the beginning of March, so the boxes were placed in a warmer room for a fortnight. The sprouts were by that time ¼ in. long. The tubers were then cut into sections with one eye each, except in the case of the five largest tubers of Lochar, which were left whole. In this way 51 single-eye sections were procured from Kerr's Pink and 80 single-eye sections of Lochar.

The eyes were then placed in boxes of leaf-mould and sand and lightly covered. They were stood in a light room in which there was a fire for several hours each day, but the boxes had eventually to be placed in a cold shed to check too rapid growth, the weather being too inclement for planting.

The ground used was part of an old market garden that had been more or less derelict for several years. It was very heavy and dirty and it had to be dug when very wet. In that condition it was too sticky to break up well, and when dry it became very hard and lumpy. Planting could not be undertaken until 20th April, and on account of the poor planting condition of the soil a little fine soil from an old rubbish heap was placed in the trenches with the sets. The rows were planted 28 inches apart and the plants were placed 14 inches apart in the rows, and covered by about 3 inches of soil. The first shoots appeared above ground on 1st May, and from that time the plants grew vigorously. Before earthing up a little guano was sown between the rows, but no other manure was given.

About the middle of July, and again during the second week in August, they were sprayed with Burgundy mixture, but the tops did not show signs of disease. In both cases the haulms were very vigorous.

Lochar was lifted on 15th September, and yielded 197 lb. of tubers. The largest tuber weighed 13½ oz., and there were many between 8 and 10 oz. There were 27 lb. below seed size and 12 small tubers were diseased. Many tubers were affected with scab. Of the five large uncut tubers one was cut into two equal pieces at planting time, the others being planted whole. There was no difference at lifting time between the whole and the half tubers, but they bore heavier crops than the single eyes. The six sets yielded 24 lb. 10 oz. of tubers, but there was a

large percentage of very small potatoes, each root numbering over 100 tubers.

Kerr's Pink was lifted on 22nd September, and each root was weighed separately. The total yield was 157 lb., the heaviest root yielding 7 lb. 13 oz. Two other roots yielded 5 lb., and 5 lb. 10 oz., respectively, whilst other 10 roots produced 4 lb. or more each. Sixteen roots bore between 3 and 4 lb. each and but two roots yielded below 1 lb. each. Those two roots were always rather weak and the tops were eventually killed by their stronger neighbours. They produced but 6 and 7 oz. respectively. The heaviest tuber weighed 15½ oz., and there were many tubers between 9 and 13 oz. Seven pounds were below seed size. Seventeen tubers were affected with ordinary potato disease, and many were marked with common scab in the same way as all the varieties of potatoes grown on the same ground.

More room ought to have been allowed both between the rows and the sets, for the tops became very crowded by the end of July.—*Journal of the Board of Agriculture*, Nov. 1917.

## Gardening Lectures.

At the Rathmines Technical Institute a series of 15 lectures has been arranged to suit Allotment Holders who desire information as to how to make the most of their plots. The lectures have been designed to give a general idea of the principles underlying the practice of gardening, and to show reasons for the methods adopted by professional gardeners in winning the utmost from a small area.

One shilling is charged for the course, and already the class numbers fifty.

The lectures are as follows:—

- I. Soil operations, viz.:—digging, trenching, false trenching, ridging, &c.: how each should be carried out and the special value of each for growing crops.
- II. The general requirements of plants and how to supply them.
- III. Manures to use in order to obtain good crops with a small outlay. Manures required for different crops.
- IV. Vegetables to grow during war time. How to arrange them on the plot to obtain profitable results.
- V. Cultivation of Potatoes and Artichokes.
- VI. Cultivation of Peas and Beans with companion crops.
- VII. How to grow Cabbages, Cauliflowers, and other members of the Cabbage family.
- VIII. Methods of growing root crops.
- IX. Cultivation of Leeks and Celery.
- X. Onions all the year round.
- XI. Salad Plants.
- XII. Vegetable Marrows, ridge Cucumbers and Rhubarb.
- XIII. Friends and Foes of Allotment Crops.
- XIV. General methods of dealing with plant pests and diseases.
- XV. Revision.

The Lecturer is Mr. W. H. Johns, F.R.H.S., Principal of The School of Gardening, "Meenacree," Terenure.

## The Onion.

By ANDREW F. PEARSON.

THE true Onion *Allium Cepa* belongs to a family of liliaceous plants embracing shallot, garlic, and leek. It is believed to be a native of Central Asia, and its history is steeped in antiquity, having been an object of worship by the idolatrous Egyptians 2,000 years B.C.

We know it as a vegetable of everyday use, highly nutritive whether used as a sauce, a boiled vegetable, or a pickle. Indeed, many of the natives of Southern Europe use it as an article of daily food in the raw state. It may be stated here that the Spanish or Portuguese grown Onion is milder than the English grown one.

The bulb contains sulphuretted oil and phosphoric acid, both free and combined with lime, acetic acid, citrate of lime, lignine, albumen, sugar and mucilage.

The juice yields an excellent vinegar, and if the bulb be roasted and pulped a first-class poultice for suppurating sores is formed, while a boiled Onion is known by housewives to have an excellent curative effect on colds, if taken going to bed.

Interesting as the medical and chemical side of the Onion may be, my duty is to write of its culture. A rich, medium soil of good texture, well manured and deeply worked in autumn, is the best foundation for good cultivation. Being a gross feeder the Onion pays for liberal treatment, and if a greenhouse, or small hot frame even, be available an indoor sowing now will give much better results than the outdoor sowing later on.

Proceed by preparing seed boxes with a mixture of loam and leaf soil—equal parts—with a pinch of sand to keep the whole porous. Level the boxes and sow the seeds. Thinly cover lightly and water with a fine-rosed water can. Keep the soil moist until germination takes place, then bring the boxes as close as possible to the roof glass so as to permit the young plants to make a sturdy, robust growth. As soon as the plants are strong enough to prick off into frames or boxes have that done to a distance of two inches apart, the soil being similar to that in which the seed was sown. If care is taken the plants will grow quickly into planting size, and every grower at this particular stage should make sure that no coddling is allowed—that is to say, air must be given freely to insure hardy plants for planting outdoors.

The plants ought to be ready for placing in their growing quarters not later than the end of April, and fine weather must be chosen for that work. I invariably choose ground which has been cropped with Celery previously to grow the main crop. This has the advantage of being rich and deeply worked. Firm the whole by tramping and rolling; bring the surface to a fine tilth and draw lines one foot apart and one and a half to two inches deep. This applies to spring sown outdoors, indoor sown, or autumn sown Onions, or Tripolis, as the latter are commonly called. Place the plants very carefully into position every six to nine inches, covering with soil and pressing the roots firmly into their new bed. Finish nicely as each line is planted.

Should seed be sown outdoors, to produce a smaller, but perhaps a better winter-keeping Onion, the same space is required, but the seed will be sown thinly in one continuous line.

Beds of four feet width are sometimes used to sow broadcast, but the scarcity of seed should not permit of this being done in 1918, except, perhaps, in the case of Onions for pickling use, which ought to be sown on poorer soil in April and left to grow thickly and produce small bulbs.

Before sowing the maincrop Onions, in the latter end of February or early in March—according to weather and soil conditions—the surface of the soil should have a sprinkling of soot and salt, two cheap but invaluable manures for Onions; little of each is wanted—a mere dusting—but the difference between the treated and untreated ground will remain clear through the season. When the seedlings become sufficiently strong to thin, have that done in showery weather, reducing to whatever size the grower desires his Onions to mature at. It is sound practice to leave the winter-keeping crop fairly thick; the bulbs will be smaller, but likely to ripen better, and of course will be greater in number; and indeed little short of the larger indoor spring sown Onions in weight. The Tripolis or autumn sown varieties will come in for use during summer, autumn and early winter; the spring sown will follow in their order.

The Potato Onion has become a general favourite during the last few years, and a good deal can be said in favour of growing it. The bulb, if planted whole in shallow ridges one foot apart early in spring will soon grow into numerous offshoots from the parent bulb; these clusters are like the shallot in appearance and growth, and the individual bulbs can be detached for household use as required, without in any way injuring the remaining portion of the plant.

The shallot requires no fuller mention, unless this, that it keeps in a firm state late in the season and is a hardy, thriving plant with very few diseases. The Egyptian Tree Onion (the garden Rocambole) produces bulbets on the stem, which grows from the parent bulb. Bulbils are also formed under ground, but unless for pickling this variety cannot be recommended as a profitable rival to the commercial Onion.

Onion sets are at present much in favour. They are really immature bulbs of late summer sown Onions, and when planted in spring speedily produce a large-sized bulb.

The summer management is simple, and consists in supplying the plants with the necessary liquid in dry weather and manurial stimulant in wet. Common washing soda is a good manure when sprinkled over the ground. Keep weeds in subjection by a frequent use of the hoe, but do not hoe too deeply as the Onion likes a firm surface, and do not feed the crop after the third week in July. Towards autumn the Onions will show signs of ripening, and if the weather is then dry bend the stems down by pressure of a rake or hoe being passed over the lines. This will encourage a gradual ripening and consequent thin neck—a necessary adjunct to a good-keeping Onion. As soon as the crop shows unmistakable signs of being ripe, by decay of the leaf, lift the bulbs and tie in ropes, in a neat, tightly set way as described in last September's harvesting notes, hanging the ropes in a peach case or under a glass coping against a wall is an excellent way of bringing about a perfect keeping Onion, for unless all superfluous sap is evaporated the Onion will not keep well through our more or less wet winters.

The diseases of Onions are not many, but the Onion fly is a source of much worry to growers of spring sown ones. Strangely enough, the

transplanted box sown, or autumn sown. Onions are rarely affected by this fly. The fly is of a greyish colour, not unlike the house fly in appearance. It begins its depredations early in summer by laying its eggs on the leaves close to the bulb; the larvæ from these eggs soon find their way into the Onion, which rots away under their burrowing influence. After becoming fully matured, the grubs change into pupæ, and thus go to rest till next season. The devastating work of the fly goes on all summer, and the best means of prevention is to destroy all diseased bulbs with the larvæ contained therein, and as early as the middle of May dress the Onion bed frequently with a light dusting of soot, gas lime, or a frequent spraying of quassia water, soluble paraffin, or strong garden insecticide. This is sure to ward off attacks.

A very severe attack of mildew in 1917 brought about the premature ripening of Onions in many places and consequent shrinkage in crop. This mildew is known as *Peronospora*, and the best method of fighting this really annoying malady is by spraying early in summer, as a preventive, using the ordinary potato spray "Bordeaux mixture." It is much better to prevent than cure, and that can only be accomplished by acting before the mildew appears.

Varieties are numerous, and for autumn sowing perhaps the Tripoli section is the best. Lemon Rocca is a good sort, wintering well, and maturing early in summer. But the newer exhibition kinds stand very well through the winter, and if not sown before the end of August rarely run to seed the next summer.

For maincrop I prefer the good keeping sorts. "James' Keeping," an old sort, has been replaced by more up-to-date selections of the "Brown Globe" under many different names. "All the Year Round" is a variety of high-class quality. "Cranston's Excelsior," a well-known exhibition Onion, and a good keeper. "Lord Keeper" is a fine sort of keeping quality. "Magnum Bonum" is truly named. "Ailsa Craig" and "Stirling Exhibition" are two really high-class varieties, attaining under good cultivation great size combined with good keeping qualities; while for pickling the small silver-skinned variety, "Queen," cannot be beaten. The above-mentioned are only a very few of the varieties found in a catalogue of seeds, but they are all reliable sorts, likely to serve the needs of any household.

In a year, such as the present is, when every square inch of ground is under crop, intercropping may be resorted to in Onion cultivation with very good results. Thus a line of Onions may be grown between the lines of first-year strawberry plants. Indeed, I generally grow such a crop in normal years. Lettuces of the dwarf sorts make another good intercrop with Onions, as when planted nine inches apart they reach maturity without injuring the Onions between, are then cut and cleared off. Early Horn Carrot is another good partner, the scant foliage never interferes with even the tenderest Onion plant, and the roots are gathered early in summer as the Onion bulbs begin to form. Should any grower decide to intercrop, he will be well advised to do so by transplanting either indoor spring sown or autumn sown plants. There is no chance then of the intercrop smothering the Onions, which might happen in the case of spring open air sowings, especially where Lettuces or Strawberries were the partners.

## Manure and Fertilizers.

Wood ashes can be used for any crops that need potash, and they may be applied at the rate of 25 to 50 bushels per acre.

For cultivated crops wood ashes should be applied broadcast after the land has been harrowed and then cultivated in by a light harrowing. Wood ashes can be used also as a top-dressing in connection with phosphate fertilizers.

It is claimed that an average sample of unleached wood ashes contains about 7 per cent. of potash and 2 per cent. of phosphoric acid.

Besides the actual fertilising value, by reason of the potash and phosphoric acid contained, there is some value to ashes simply by the power which the potash has to make the nitrogen of the soil available for plant use by its chemical action upon the organic matter and humus of the soil.

The potash in wood ashes exists in a readily soluble form, and is thus immediately available for plant food.

Coal ashes are of little value as plant food.

Manure may fail to give good results the first year and show well the next. Much depends upon the condition of the material. It cannot afford food to plants until it decomposes and is soluble material converted into plant food.

Stable manures are generally more economically used when applied to farm crops than when applied to orchards; yet they can be used with good results, particularly in rejuvenating old orchards on exhausted soil.

The liquids of manure are alkaline and will neutralise the sawdust if well soaked into it.

The chemical action in the manure pile is also alkaline, so that sawdust used for bedding and well mixed with the manure is safe to use on the soil.

Horse manure contains less water than cattle manure, and as the horse has less power to digest cellulose, the manure is more fibrous.

Horse manure ferments easily, and hence is called a hot or quick manure.

In fermenting, horse manure gives off ammonia or nitrogenous products, and rapidly deteriorates in quality.

Because of the rapid fermentation of horse manure, it easily becomes dry and fires.

To prevent fire-fanging and loss through fermentation, horse manure, when in piles, should be kept very compact and moist.

Mixing horse manure with cow manure will aid in preserving it, and contribute to the value of both for general purposes.

The quality of quick fermentation and heating makes horse manure especially valuable for use in hot beds, mushroom beds, and for cold, wet soils.

Horse manure is more bulky, or weighs less per cubic foot, than cow manure.

A well fed horse will produce about 50 pounds of manure per day, about one-fourth of which is urine.

MANURING FACTS.—Professor E. B. Hart, of the University of Wisconsin, says farmers need to be cautioned generally against the use of wood ashes and lime with manure. The ashes and lime produce an alkaline condition, resulting in the loss of the ammonia which carries off the nitrogen. —*British Columbia Fruit and Farm Magazine*.





## February The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### VEGETABLE GARDEN.

THE month of February sometimes comes to us with a rush of sunshine and nice warm weather which may tempt one to start seed sowing on too liberal a scale. We must not forget that there is sure to follow cold, wet weeks when at least the smaller seeds would be sure to perish owing to there not being sufficient heat in the ground to germinate them.

**POTATOES.**—Towards the middle of the month plant early varieties on a south or west border. Do not cut the seed of early-planted Potatoes; they would very likely rot in the ground should we have a prolonged spell of cold, wet weather. I prefer to plant early varieties on the flat. By so doing more earth can be drawn up to the stalks as they appear above ground to protect them from late frosts.

**PEAS.**—Make one or two sowings of Peas during the month. If the earlier sowings are appearing above ground draw the earth well up both sides of the rows to protect them from cutting winds.

**ONIONS.**—Plant shallot and autumn sown Onions on well prepared ground. The main crop of spring sown Onions can be got in about the last week of the month if the ground is in good workable condition. The ground for this crop should be deeply dug and well manured; if this was done in the autumn so much the better. Make the surface fine by forking over, and then tread the whole of the ground evenly and firmly rake over and draw the lines one foot apart and about one and a half inches deep.

**BROAD BEANS.**—Good sowings of Broad Beans can now be made.

**SPINACH.**—Sow Victoria Spinach on a warm border for early picking. Hoe between autumn sown Spinach.

**CAULIFLOWERS.**—As a succession to those in frames sow a box of early London or snowball Cauliflower, place in a cool house, and when large enough to handle prick off into a frame.

**CABBAGE.**—Plants that have been kept in stock during the winter should now be planted out, first making good all blanks in those planted in the autumn.

**TOMATOES.**—Sow Tomato seed in pans in heat. Sunrise and Alma Craig are good varieties.

#### HARDY FRUIT GARDEN.

**RASPBERRIES.** The Raspberry being surface-rooting cannot be dug between. Hoe the ground between the rows and give a dressing of farmyard manure. New canes when planted should be cut down to 8 or 9 inches from the ground.

**LOGANBERRY.**—The same remarks apply to the Loganberry as to the Raspberry, Gooseberries, and Currants. A little well-rotted manure forked in lightly around Gooseberry and Currant bushes will improve both the size and quality of the berries.

**PEACHES AND APRICOTS** on walls should now be tied or nailed neatly, taking care not to overcrowd the young wood; if disbudding was carried out at the proper time there will be very little to do now as regards pruning except to remove any dead wood or a misplaced branch. See that none of the old ties have got too tight. After tying is all finished give the border a light forking over, and give a mulch of good cow manure if possible.

**SPRAYING.**—Every advantage should be taken, on calm days, of carrying out this most important operation.

#### THE FLOWER GARDEN.

**SWEET PEAS.**—Sow Sweet Peas in pots, five or six seeds in a 6-inch pot for general purposes. If large specimen blooms are required, sow singly in 3-inch pots. Place in a cool frame or greenhouse, and protect from rats and mice.

**CARNATIONS.**—Where those have been wintered in frames they can now be planted out in their permanent quarters. When preparing ground for Carnations fork in a good dressing of lime rubble, wood ash and soot. Pinks that have been raised from pips or cuttings can also be planted now. Place Dahlia roots in heat to start to get cuttings.

**PELARGONIUMS, GERANIUM,** and all half-hardy bedding plants will now root freely if cuttings are inserted in a gentle hot bed.

**HERBACEOUS BEDS AND BORDERS.**—Many bulbs will now be coming through the ground, and where any forking or alterations still remain to be done care must be taken not to trample the young growths just appearing above ground.

**ROCKERIES.**—Loosen the surface soil around rock plants with hand fork, and give a top-dressing of well-rotted loam, leaf-mould, and sand well mixed together.

## Midland and Northern Counties.

By E. RUTHERFORD, Gardener to C. W. Dunbar  
Buller, Esq., D.L., Woburn, Donaghadee.

### THE KITCHEN GARDEN.

**LETTUCE.**—Sow on a warm border. Plant out in mild weather towards the end of month any that are fit from frames, but be sure they are well hardened.

**BRASSICA.**—Cauliflower and Brussels Sprouts should be sown on a mild hot bed or in boxes; the plants should be pricked out in a bed prepared in a frame as soon as fit.

**POTATOES.**—A small quantity may be planted for early use when the ground is dry. A warm, sheltered border should be selected. May Queen and British Premier are very early sorts.

**PEAS.**—Sow early sorts in quantity according to probable requirements. On the first appearance of the Peas a slight dusting of lime or soot will be necessary to protect them from slugs.

**CABBAGE** planted out in the autumn will require to be examined at this time, and all deficiencies made good. The ground between the rows should in dry weather be stirred with the hoe to destroy weeds, also to encourage the growth of the plants. Make a fresh plantation as soon as the weather permits.

**SHALLOT.**—Plant as soon as the ground can be got into good working order. Choose ground that has been well manured. Plant in rows one foot apart and the bulbs three inches apart. Press them into the earth deep enough to hold them firmly.

**PARSNIP.**—Sow towards the end of month on ground that has been well manured for a previous crop, and that has been deeply dug during the winter. A fine seed bed should be prepared. Sow in shallow drills eighteen inches apart, dropping the seeds in twos and threes six inches apart, cover lightly and touch over with the rake.

**PARSLEY.**—A sowing should be made on deep, rich soil in lines fifteen inches apart. It should have plenty of room from the first; get the thinning done as soon as it is ready.

**MUSTARD AND CRESS.**—Make a sowing of these salads in heat and keep up a constant succession.

**BROAD BEANS.**—Make sowings for succession in rich, deeply-cultivated ground.

**SPINACH.**—A sowing may now be made of the round or summer Spinach in succession. The early sowing should be made on a sheltered border. Sow in drills fourteen inches apart and one inch deep.

Continue to get all spare ground dug over and keep the place clean. Many weeds, groundsel especially, will now be coming into flower; if allowed to seed will give a lot of trouble later on. Frame ground should be kept tidy. Many things in frames will now require watering, but it should not be carelessly given, and give plenty of air on fine days.

### THE FLOWER GARDEN.

**HALF-HARDY ANNUALS** may be sown in seed-pans or boxes, using a compost of loam, sand and leaf-

soil. Sow the seed thinly, cover very slightly, and lay glass or paper over the pans to keep moist. Care should be taken if watering not to wash the seeds out. As soon as the seedlings appear remove the glass and place seed-pans close to the glass to keep from getting drawn; and when fit prick off into boxes and keep shaded from strong sunshine for a few days and gradually harden off.

**BEDDING PLANTS.**—Geraniums in boxes may be shaken out and potted singly in 4-inch pots or mossed and placed in boxes. All plants from which it is intended to propagate should be placed in heat to encourage the growth. Dahlia roots may be placed in heat for propagating from; place the roots close together, shaking in some light sandy mould between the roots; they should be occasionally sprinkled with water. When the shoots are about three inches long the cuttings may be taken off and inserted in small pots in light sandy soil. The pots should be plunged in brisk heat and kept close until rooted.

**SWEET PEAS.**—Make a sowing in pots or troughs and place in heat.

Grass borders and lawns may be laid or sown where required; roll lawns when the weather will permit. The grass edgings of gravel walks and the sides of all grass borders should be now gone over with the edging-iron and cut as straight as possible.

### HARDY FRUIT GARDEN.

**SPRAYING FRUIT TREES.**—This should be done soon as possible, using some of the recommended sprays; choose a fine calm day. The operator should use rubber gloves in order to protect his hands.

**FRUIT TREE BORDERS.**—Let all the fruit-tree borders be forked over as soon as the pruning and nailing are finished. In turning up the borders care should be taken not to fork too deeply for fear of injuring the roots of the trees.

**STRAWBERRY BEDS.**—Thoroughly clean all plantations, but do not dig between them. Apply a good mulching of farm-yard manure; the sap will wash to the roots with the rain; the litter will keep the ground moist about the roots during the summer, and keep the fruit clean.

		Rainfall.			
	Inches	Rain fell on 12 days of the month.			
Jan.	3.17	..	..	10	..
Feb.	1.70	..	..	20	..
Mar.	3.59	..	..	15	..
April	1.21	..	..	16	..
May	1.33	..	..	15	..
June	2.25	..	..	16	..
July	2.97	..	..	25	..
Aug.	7.60	..	..	16	..
Sept.	1.46	..	..	26	..
Oct.	3.85	..	..	21	..
Nov.	1.88	..	..	16	..
Dec.	2.01	..	..	..	..
36.38					

Showing a total fall of 36.38 inches and 208 days on which rain fell.

J. MATTHEWS (Cappoquin).

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AT

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# My Garden

WATERFORD

FOOD PRODUCTION

FEBRUARY 1918



THE year 1918 may or may not see an end to the lamentable contest in Europe. But, whatever happens, every indication points to the necessity for increased food-production. The inevitable scarcity of meat should be met as far as possible by developing the food resources of the soil. While it is the duty of the farmer to augment the cereal crops, it is no less the duty of every one possessing a garden to get as much food out of it as possible—every square yard should be made to yield its quota. Peas and Beans are deserving of greater consideration than was generally deemed necessary last year. Should you be face to face with a meatless day a dish of either of these legumes might be found no bad substitute. Their nutritive value is in excess of that of beef. Don't omit a fair proportion of Beet, Parsnip, Onion and root crops generally,

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# Irish Gardening

## Contents

	PAGE		PAGE
Food Production First . . . . .	33	Seed Sowing . . . . .	44
Early Flowering Irises (Illustrated) . . . . .	36	Lectures for Plotolders . . . . .	44
Cyclamen Rohlfsianum . . . . .	36	Allotment Observations . . . . .	45
The Pruning of Roses (Illustrated) . . . . .	36	Allotments and School Gardens . . . . .	45
February Flowers . . . . .	38	The Month's Work—	
Early Flowers at Rostrevor House . . . . .	39	Southern and Western Counties . . . . .	46
Parsnips . . . . .	40	Midland and Northern Counties . . . . .	47
The Gentianellas . . . . .	40	Economy in the Use of Vegetable Seeds . . . . .	48
War-time Flowers (Illustrated) . . . . .	41	Correspondence . . . . .	48
Irish Mistletoe . . . . .	42		
Friends and Foes of the Plotolders' Crops . . . . .	42		



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**Hon. Treasurer—D. L. Ramsay, J.P.**

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# IRISH GARDENING

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1918

EDITOR—J. W. BESANT

## Food Production First.

By ANDREW F. PEARSON.

### “The Pea.”

OF all vegetables the culinary pea, “*Pisum sativum*,” is generally regarded as the choicest, and as a highly nourishing food, being rich in phosphates and alkalies, it holds a very high position whether used as a green dish with meats, or in soups; when dried it makes a welcome addition to the winter vegetables, and growers with foresight will save every dry seed for next winter's requirements. It can also be bottled in the green state, and will keep an indefinite time in perfect condition.

The cultivation of the pea is simple, though somewhat more exacting than some of the commoner vegetables; in mild districts some growers sow the earliest batch in October and November, and often succeed in bringing the plants through the winter successfully, while others pin their faith to indoor sowings in January or early February, and subsequently hardening off the plants before planting outdoors at the end of March or early April.

Whichever method be adopted in normal years, the present year demands that which will ensure a quick and economical return of food, and I will endeavour to present a clear outline of some of the best means of obtaining crops throughout the season.

At the outset it may be taken for granted that most garden soils will produce peas, the best is, however, a soil of a calcareous nature, that is somewhat limy in composition, and as the crop is an exhausting one the ground needs good preparation and deep working, but large quantities of fresh manure must not be used.

A liberal supply of well-made farmyard manure worked in during winter at two spits under the surface is the better way to apply nourishment to the pea, the growth will then be uniform and likely to be more fruitful than the more luxuriant haulm which would result from a close application of fresh manure near the roots.

Artificial manures may also be applied if obtainable, the most profitable plan to adopt is to use these manures as a stimulant at critical periods, and as an assisting agent to the more complete food contained in farmyard manure. Sulphate of ammonia applied in summer at the rate of  $1\frac{1}{2}$  lbs. to 2 lbs. per square rod will give a decided fillip to a weak growth, while if 4 lbs. to 5 lbs. basic slag per square rod has been applied in autumn or winter the crop will be all the greater.

The earliest crops will have been sown before this date, but early sorts may still be sown, and in the event of a grower, through circumstances, being in the unhappy position of a late beginner, early sorts such as William Hurst, or American Wonder dwarfs, or “Pilot,” may be sown in pots and placed in a greenhouse or hot frame to hasten their growth. An even better and cheaper way is to cut some thick pieces of turf about 4 inches in width and 3 inches thick, turn these turves, grass side downwards, draw a furrow  $1\frac{1}{2}$  inches deep in these turves, sow the peas thinly, cover with fine soil, press firmly and water. If the turves have been set close to each other in a frame, or greenhouse floor, all that is required is to keep the frame or house close, and watch the seedlings in case of attacks from slugs. Should these pests be prevalent a dusting of lime or



IRIS VARTANI (p. 36).

soot nightly will ward them off, or an application of salt to their hiding places (but not over the plants) will prove effective. Make sure that the young plants get plenty of light and air, because such conditions will produce strong plants. When the seedlings are strong enough and hardened sufficiently for planting outdoors the turves may be lifted and carried to their growing quarters. A fine dry day should be chosen for the purpose; a flat shallow trench of 4 inches deep and 6 to 8 inches in width will suit admirably for planting the turves in, and, of course, the most sheltered position in the garden should be selected, with a south exposure preferably. The soil may be drawn to the necks of the plants, made fairly firm, and little shelter sticks placed on both sides to protect and encourage growth.

Peas grown in this fashion will ripen their crops quite as early, in many cases, as November sowings. The giving of shelter is at times a problem, for cold N. and E. winds in March and April are usually prejudicial to tender vegetable growths. I have used small wicker hurdles as protective fences with good results, these are made by interlacing hazel or other twigs, or common rush grass, on stouter upright growths. These hurdles worked into 4 or 5 feet lengths, and 2 to 4 feet high, can be taken about to any point and driven into position, and will serve the purpose of protecting other crops besides early peas.

Another good protecting wall, if of a more permanent nature, is one made of thick turf, raised to a height of 18 inches or 2 feet. It makes a fine shelter, and when finished with may be broken down and incorporated with the

soil, or used as potting material, as one may care to do.

Another method for growing early crops where neither frame nor greenhouse is available, is to sow close up to the bottom of a south wall, the peas will progress in such a site at a rapid rate, and produce a fair crop.

It should be understood that podding is accelerated by pinching out the point of the growing shoot or haulm as soon as the flowers show, and that is the best time to assist with a light stimulant in the shape of artificial manure, if the weather is wet, or liquid manure from the farm tank if the weather is dry. Or, if neither of the above is obtainable, give plenty of surface cultivation with the Dutch hoe or Buco cultivator.

The foregoing may be taken as sound practice for early crops, and the maincrops are produced more naturally, and consequently easier.

They require the same limy soil, well worked, rich and free; plenty of room should always be given, especially between the tall varieties. I have grown early potatoes between the lines of maincrop peas, with good results to each crop, and propose this year to grow all maincrops 12 feet apart with 3 lines of early potatoes between, to be followed by celery. This space permits of 2 trenches of celery taking the place of the potatoes when lifted, and both peas and celery benefit by a continuous working going on throughout the summer months. The ridges between the celery also carry a crop, generally lettuces.

The peas should be sown thinly—1 quart will sow 120 to 140 feet—in shallow trenches of about 3 inches deep and 6 inches wide, and then covered to the depth of 1 inch, and pressed firmly by the foot.

The first week in March is early enough to sow the first of the maincrops, and this sowing should be followed by other sowings throughout the season at intervals of a fortnight or three weeks to maintain a succession. After June it is risky to sow further, unless on the chance of getting a late dish, and then only first earlies should be used. Of course, every grower must be a law to himself, as he alone knows his table needs, and no one should sow more than his ground will permit him to crop with profit, and an eye to other sorts of vegetables must be sharply kept.

When the peas are from 3 to 6 inches in height sticks of the required height must be placed in position; the ground on both sides of the row must first be forked over, working in a little lime if required, then draw the soil by means of a draw hoe closely to the neck of the young plants, and press the stakes firmly



into position, filling the gaps at the bottom by light, short feathery sticks to enable the young peas to cling their tendrils and climb into the higher sticks. Hazel or beech make good sticks. Each variety should have the probable height marked on the label so as to avoid confusion in sticking, and it is better to place a stick too long than one too short.

As the season advances the trenches for sowing should be made deeper. This will allow of either waterings, or manure or soil mulchings to be applied in the event of very hot, dry weather, and then the grower will learn how much good these surface operations can do.

The final sowings may be made in the end of June or beginning of July, no guarantee can be given as to their coming into crop as the elements have a greater control than the grower during the autumn months, still a late sowing often repays the trouble taken. It is, therefore, worth while to make a trench about 18 inches wide and similar to a celery trench, only not so rich.

Sow thinly, and cover as in maincrop, encourage the sturdy growth, and if a dry period should come, water freely. This will in all probability enable the plants to carry on to the fruiting stage, and if the weather be kind it is no unusual thing to have dishes of peas in November.

The pests inseparable from pea growing are: the rat, the mouse, slug, the sparrow and jackdaw. Means can be found to sicken the slug by dustings of soot or lime in the evenings; a shot gun fired now and again amongst the feathered pests will keep them off; or cotton thread strung from sticks up and down and across the lines with quill feathers or bright pieces of tin attached to the strands acts as a scare to the birds; whilst rats and mice may be deterred from eating the seeds by spraying a little paraffin oil over them, and coating the whole with red lead before sowing. This is easily done by rotating the peas in an old tin while dusting the red lead on. A preparation called Horticol is also invaluable for such dressings; all seedsmen stock it.

The insect pests are the Pea Weevil (*Bruchus pisi*), the Pea siphon-aphis (*Siphonophora pisi*), and the moth *Plusia*, all of these are harmful, and there is no royal road to their extermination or prevention, but luckily their depredations are not general, a dusting of vaporite, soot or other obnoxious substance certainly makes them shy of making inroads, and such dustings should be carefully administered. If aphid attacks the shoots severely, a syringing of soap water will clear them.

The selection of varieties is a perplexing point to the amateur or novice. Far too many names

are given in all garden catalogues, and every seedsman has his own special varieties. To make a selection is an invidious task, but I will mention a few standard varieties well worth growing when good strains are to be had.

Earlys: Laxton's Superb, Early Multiple, the Pilot, Thomas Laxton, American Wonder, or Little Marvel.

Second Early: Daisy, Senator, Duke of Albany, Sharpe's Queen, Royal Salute.

General or late Crop:—Gladstone, Autocrat, Rearguard.

Although the above-named sorts are not recommended in an arbitrary spirit they are fairly representative of this race. In addition to these there are two giant varieties which I have grown with some pleasure: they are Quite Content and V.C.; both are fine marrow-fats with very large well-filled pods, of striking appearance when well grown. The greatest drawback to their being grown by amateurs is the length of stick they require. This will probably be the determining factor in choosing varieties, as the dwarf sorts need so little in that respect, and are likely to be of more value to the plott-holder. If, however, tall varieties are grown, and sticks prove scarce, wire netting or old fish netting hung on posts makes a very fair substitute, and at a pinch bamboo canes with string attached makes a good fence to which the growths can be tied.

Whatever variety is grown, and whatever sort of stake is used, appearance must take second place to good culture, and every dry seed should be saved for next winter's food supply.



IRIS WILLMOTTIE.

## Early Flowering Irises.

THE Algerian Iris unguicularis, better known as Iris stylosa, was alluded to in last month's IRISH GARDENING. It has continued to flower beautifully right on into February, and has been a constant pleasure.

In addition we have had since the latter end of January several of the dwarf bulbous Irises opening their early flowers. There is quite a number of them known to cultivation, but a good many are difficult to manage, and we have not yet discovered the secret of keeping them permanently. Such elusive beauties as the little yellow flowered I. Danfordiae, the late autumn or winter flowering I. akata, and the queer purple, or reddish purple, I. reticulata Krelagei have somehow failed to appreciate our efforts to meet their requirements, and either do not flower or vanish entirely. Why I. reticulata Krelagei should sulk is hard to say, since the type and at least three varieties are quite happy, and apparently increasing in vigour. The earliest of the three varieties to flower was that known as Sophenensis, which was wide open early in January, nearly a month before the others, though the "Book of the Iris" says it flowers in February after histrio. . . . . The opposite is the case here. Our clump is growing at the foot of a south-west wall, pretty well sheltered, and was planted some half dozen years ago in loam sand and old mortar rubble. This apparently suits it, as it is very much stronger now and increasing. The light blue flowers are delightful so early in the year, and expand rather in advance of the leaves.

The next variety to open was histrio, which opened towards the end of January, and continued on into February. This, too, is a charming little plant which one is glad to say has been increasing for some years. Again, the base of a sunny southern wall seems to suit, and a similar compost. The predominating tone is light blue, though on looking closely at the flower it is seen to be much streaked and mottled with that colour on a white ground. Next in order came histrioides, very well named, indeed, for to describe how it differs from histrio is a difficult matter, though when growing near by each other they are distinct. The colouring is very similar, but the flowers look distinctly larger, though no actual measurements were taken.

Following histrioides, and indeed flowering with it, came Iris Vartani much later than usual, but certain other planting operations going on close by caused a heap of soil to lie, for some time, on the site where the Iris grows;

this retarded growth, otherwise Vartani would have been one of the earliest to bloom. The flowers are a pretty shade of pale blue appearing with the leaves, which finally lengthen out much beyond the flowers.

Iris Tauri has lived in a sunny pocket on the rock garden for a good many years, but increases very slowly. It opened its first flower in the early days of February, and was a pretty sight during the sunny days we had then. The flowers are peculiar in colour, a combination of reddish violet and velvety black marked with white and orange. The flowers are clasped by the leaves, which ultimately lengthen considerably after the flowers have faded.

DUBLIN.

## Cyclamen Rohlsfianum (Ascherson).

THIS very curious and characteristic plant grows in the rocks in the desert in Cyrenaica, south of Benghazi. A friend of our Floraire garden sent it to us last autumn. Its foliage is the largest in the genus, very deeply cut and sharply incised. The flowers are fragrant and light pink, large, with the anthers exerted and closely appressed to the style, just like those of the Dodecatheons.

It flowers in late autumn and through the winter in Cyrenaica. My friend writes that it is difficult to grow there.

H. CORREYON, Geneva.

## The Pruning of Roses.

TO derive the greatest benefit and pleasure from rose plants, it is essential that the operation of pruning be carried out well and wisely. By skilful pruning, following on by close attention to necessary cultural details, rose plants will produce a surprising quantity of excellent blooms throughout their growing season.

Although the pruning of the individual plant is not everything, it certainly means a great deal towards achieving future success. About the middle of March, provided the weather be open and favourable, is a good time to commence the pruning of Hybrid Perpetuals and Hybrid Teas. Noisettes and Teas, being of a more delicate constitution, should be left unpruned until the first or second week in April. A sharp knife should always be used for the pruning of roses, unless the secateurs are kept in tip-top condition, and even then they have a great tendency to injure the precious plump bud, situated immediately below the cut. Before a start is made to prune, it is well to observe the habit of the individual plant,

whether the variety be a vigorous, moderate, or weak grower. The vigorous grower should be cut back to five or six buds on firm, well-ripened wood of the past year's growth. The moderate grower may have its shoots shortened to three or four buds, and the weak grower reduced to two buds. From each plant cut away all dead and decaying wood, and likewise all

necessary scope for expansion. Leave the pruned shoots at regular and equal distances to form a balanced plant, with the aim in view of keeping an open centre, so that light and air shall be freely admitted. At the first appearance of bare suckers emerging from the surface of the soil, pull them up at once, right back to the root if possible, as they would



ROSE MRS. JOHN BATEMAN  
A Hybrid Tea China Rose Colour.

gross, unripe shoots. It is useless to retain any part of the latter shoots, as they only produce but very inferior blooms. Thick shoots that are getting old, and waning in vitality, should be cut out and replaced with young shoots, induced to emerge from the base of the plant. By so doing, this keeps the plant well supplied with young, vigorous and healthy growth. When shortening the shoots always cut just above a bud pointing outwards, which will give the

eventually rob the plant of much valuable nutriment at that stage of growth, when the plant most requires it. As soon as the pruning operation is finished, all leaves and prunings should be carefully collected and taken straight away to the rubbish heap to be burned without delay.

The following are a few of the best varieties in each section:—

*Hybrid Perpetuals*.—Alfred K. Williams, Frau Karl Druschki, Horace Vernet, Mrs. John

Laing, Mrs. R. G. Sharman Crawford, and Hugh Dickson.

*Hybrid Teas*.—Caroline Testout, George C. Waud, J. B. Clark, Kaiserin, Augusta Victoria, La France, Lyon Rose, Mrs. W. J. Grant, and William Shean.

*Teas*.—Bridesmaid, Madame Constant Soupert, Maman Cochet, Molly Sharman Crawford, Mrs. Edward Mawley, The Bride, Catherine Mernet, and Comtesse de Nadaillae. D. McIntosh.

Daninn Gardens, Rathgar.

## February Flowers.

THE greater part of February was comparatively mild, and consequently many plants opened their flowers and made a brave show. Some such as *Prunus Davidiana* are rarely seen in such beauty, being as a rule nipped by frost. In our January notes we alluded to the buds being on the point of opening, but it was not until the first week in February that the flowers opened fully. The pink form, generally recognised as the type, is delightful, but the pure white variety is charming and more conspicuous from a distance.

*Prunus delaisiensis*, one of Mr. Wilson's finds in China, promises to be an interesting and attractive plant. At present it is bearing numerous large, pale pink flowers on the short twiggy branches, and will probably become more floriferous with age. Most of the plants at present in gardens are quite young, but the growth does not suggest that the plant will ever be more than a shrub; even so, it will be an acquisition. *Prunus cerasifera atropurpurea*, the old and well known purple plum, is still in the forefront of early flowering small trees. Just at present (18th February) it is a mass of blossom, and equals in beauty any of the newer introductions. The spring *Rhododendrons* have had a better chance lately, and early in the month *Rhododendron moupinense* opened its big white bells. This is a dwarf growing species from China; suitably placed on the rock garden where in peaty soil and half shade it looks at home. *R. nobleanum*, an old hybrid of *R. arboreum*, has been beautiful, with its trusses of rose pink flowers, so often cut off by frost.

*Prunus amygdalus persicoides* is worthy of mention. The flowers are large, of a pale pink shade, wreathing the shoots of last year's growth. All these early flowering *Prunuses* are more effective when seen against a dark background.

*Sarcococca humilis*, an evergreen of recent introduction from China, and perfectly hardy, promises to be a most useful shrub in Irish

gardens. Though growing quite well fully exposed it flourishes in shade and in moist soil. The shoots are densely clothed with narrow leaves, and producing in February many clusters of white flowers in the axils of the leaves. The flowers are heavily scented, proclaiming the presence of the plant even before it is seen. During summer and autumn black berries are produced. Cuttings strike readily almost any time with or without heat. *Cydonia japonica* in many varieties has been beautiful, and will continue for some time; this is a most useful and accommodating shrub, flourishing best no doubt in a sunny position, but also doing well in comparative shade. It is equally suitable for growing against a wall, or as a bush in the open. No great amount of pruning is required, but wall plants should have the weaker growths spurred back in summer after the manner of fruit trees. Some of the best varieties are *Knaphill*, scarlet; *Nivalis*, white; *Moerloesii*, pink and white, and *Rosea*.

*Cassandra calyculata*, the Leather Leaf, is an interesting member of the Heather family which flowers through February, bearing numerous small pendant white flowers. The dwarf variety, *nana*, is better than the type, forming a more compact bush. A specimen in the bog garden at Glasnevin is not more than 18 inches to 2 feet high, though it has been there many years. Many bulbous plants and alpine have flowered freely during the past month, *Saxifrages* being early in evidence. *Sax. burseriana major* and *S. b. magna* made a good show early in the month; they are planted in a granite moraine, and evidently like it, as the "cushions" continue to increase in size. *S. apiculata* Alberti is a precocious plant, often opening a few flowers in December, and from then intermittently until February, when it generally flowers freely. It is soon followed by *S. apiculata alba*, a very fine plant worthy of planting freely. Others which have flowered well lately are *S. burseriana minor*, *S. Desoulavii*, and *S. Salamonii*. At the time of writing *S. Faldonside* is opening its first flowers, and promises to make a good show in a few days.

*Anemone blanda alba* has been very pretty under a small pine tree, and was accompanied there by *Eranthis cilicica* and *Crocus imperati albidus*, which pushed its way through a thick mat of *Antennaria dioica*. *Narcissus minor minimus* flowered early in the month, and looked very dainty sheltered by a big stone, while a week or so later the somewhat larger, but equally welcome, *N. minor* opened in a sunny border. About the same time a trumpet variety of good shape and colour opened, and was in full flower by the middle of the month.

It is invariably the first of the large trumpets, but unfortunately has not been named. N. Sir Horace Plunket is a good second.

*Sisyrinchium grandiflorum* has established itself in a cool moist spot in heavy soil, and flowered well before the middle of the month.

### Early Flowers at Rostrevor House.

OF January flowering plants, the following may, perhaps, be added to the useful and interesting list given in the last issue of IRISH GARDENING:—



A GOOD TYPE OF GARDEN ROSE.  
Showing Result of Good Cultivation.

The Satin Flower is a charming plant, and boasts of a beautiful white form. Other plants which flowered during the month were *Primula denticulata*, Snowdrops of several species, *Leneojum vernum*, and *L. v. Vagneri*, *Chionodoxas*, *Scillas sibirica* and *bifolia*, *Puschkinia libanotica*, many species of *Crocus* and *Adonis amurensis*.

*Rhododendron nobleanum*, a hybrid between *R. arboreum* and *R. caucasicum*, with fine large masses of red flowers.

*Daphne Danphini*, also of garden origin, and a supposed hybrid between *D. sericea* and *D. odora*. It forms a small evergreen bush, with clusters of purple flowers very fragrantly scented.

*Lithospermum rosmarinifolium* is a diminutive evergreen shrub, seldom more than 18 inches to 2 feet high. It appears to be a native of Italy, and begins to bloom in November, continuing to display its beautiful clear blue flowers up to the end of April.

*Eucalyptus cordata* is a tree from Tasmania, and is one of the hardier species of the genus. The bloom is not unlike that of a Myrtle, but not so conspicuous, and it opens early in the year. It is evergreen, leaves heart-shaped, and of a bluish tint.

*Hamamelis mollis* is of recent introduction from China. It seems to be absolutely hardy, and produces its yellow flowers in all weathers. The leaves are large, and they die off in the autumn a fine canary colour.

*Cyclamen coum*, from Asia Minor, deserves more attention than seems to be paid to it. It spreads quickly, and forms a dense carpet of green leaves mottled white. Early in January it begins to throw up masses of bright crimson flowers, which last many weeks, and which contrast well with Snowdrops and also with the *Lithospermum*, above mentioned, when the three are close to each other. Last year and this year the bloom was delayed till February; but this was due to the cold. In normal years it is a blaze of crimson before January is half over.

The above are hardy in Ireland, at least in the more favoured districts of the island, and where soil is suitable. Of half-hardy plants, mention may be made of *Acacia calamifolia*, which begins to open its Mimosa-like yellow flowers late in October, and continues to bloom nearly until the summer. It is very floriferous, and it grew out-of-doors at Rostrevor for several years until last winter, when the prolonged frost killed it. J. R. of B.

## Parsnips.

THIS excellent vegetable suffers not at all by being left in the ground, indeed some say the flavour is never right until the roots have been frosted. If, however, it is desired to dig the ground they may be carefully lifted and stored between layers of soil to prevent shrivelling. It is strongly rumoured that there will be a great shortage of Parsnip seed in the ensuing spring, and I strongly urge allotment holders to place their orders at once with a seedsmen, so that he may know, as near as possible, what quantity of seed he must endeavour to get in.

GROWER.

## The Gentianellas.

THESE plants may be called "The Pride of the Alpines," as they are the best coloured of them all. Some are really the deepest blue or the deepest red of the alpine vegetation (see *G. bavarica* and *G. purpurea*), and some are the most elegant of all (see *G. asclepiadea*).

This is quite true, says someone; but how difficult it is to grow these pretty little plants! I quite agree; however, in your mild and moist climate of Ireland I have seen the tenderest of all growing very well and looking extremely pretty. I have just under my eyes a beautiful photograph which was given me by Mrs. Montgomery, of Blessingbourne, Fivemiletown, Ireland, which shows a bed of Gentianella in such luxuriance that I could hardly admit it was not "something made in Germany." I am afraid I will cause a great scandal in saying this, but it was, I am sorry to say, my first impression. I knew very well that the Huns were making flowers in Erfurt and tricking them so that they seemed at first real flowers. They tricked the photos too so well that every botanist, seeing the cards of alpine flowers made in Dresden and published by Ostermayer, sold in millions over the world, and looking as if taken in the highest altitudes, believed at first sight they were natural photos.

The photo of Mrs. Montgomery's garden of Gentians shows such a mass of big flowers that each one touches another, and the whole seems to be a carpet of blue cups. The frame, of course, is not worthy of the picture, as the bed lies at the foot of a common greenhouse with a cement frame at the back. In Germany they would have put a glacier behind that photo to make believe that it was taken in the Alps.

I tried once to have these put out, but it would be a pity, for an adorable young girl stood just there to give the scale; so I have the picture with the frame, and, even so, it gives my heart and mind every kind of comfort and bears my spirit above all the Huns' abominable stories to our great alpine heavens.

Such prodigality of flowers we never have in the Alps. The abundance of the blue cups was really extraordinary. I see in the map that the lady's garden is in the north of Ireland in a mountainous country not far from some lakes, and so very suitable for the culture of alpine. I know *G. verna* grows wild in the west of Ireland and reaches to the north of Co. Mayo. Mr. Praeger gives in his book, "The Flora of Western Ireland," a good photo of the native habitat of this little gem in Co. Clare. It is therefore possible that Ireland still more than England has a climate suitable for growing Gentians.

The *acaulis* group is certainly the brightest of all with its very large deep blue flowers. The old species, *G. acaulis* of Linnaeus cannot be now recognised, composed as it is of four well-marked types markedly different from one another. All have, of course, the same general characters—sessile leaves, large dark blue flowers in the shape of an elongated cup, but the type differs according to situation and soil. They are known as *G. Clusii*, dwarf, compact and caespitose; leaves coriaceous, thick, entire, lanceolate acute, dark green with a central vein; scape  $\frac{1}{4}$  inch at most; flower large, erect, charming violet-blue corolla with five short lobes; calyx teeth acute, appressed to the corolla, separated from each other by acute angles. It grows on thin rocky pastures of the

limestone in the Alps and the Jura between 1,200 to 2,000 metres.

*G. Kochiana* with large leaves, smooth, spreading many-veined and yellowish-green; flowers blue, tinged violet, with five blackish-green splashes on the throat; calyx teeth spreading, oblong more or less, contracted at the base and separated by truncated angles. Granitic Alps between 1,400 to 2,000 metres.

*G. alpina* differs from the last by its running root-stock, its smaller leaves glaucous and somewhat arranged in ball-shaped rosettes; its flowers are smaller, of intense blue, very shortly stemmed, if not sessile; grows here and there on meagre pastures in the high Alps at 2,200 to 3,000 metres, and in the Pyrenees.

Lastly, there is the most brilliant of all, *G. angustifolia*, of the Alps of Dauphiné, which, under the name of *Gentianella*, has been grown in English gardens for 300 years. Stem stoloniferous, leaves linear of the brightest green, and shining; flowers large, of a glorious blue with fine green spots on the throat; stems rather long, 4 to 10 centimetres. It grows in the pastures of Savoy and Dauphiné near la Grande Chartreuse, and is the most exquisite of all alpine flowers. It forms very broad tufts, sometimes 3 feet in diameter. It seems to me that the plant at Blessingbourne is this one. It is easily grown even here, and is increased by division. It still remains to be said that *G. Kochiana* is sometimes called *G. excisa*, *G. angustifolia*.

*G. sabauda* and *G. Clusii* are sometimes called *G. rocheliana*.

There is, too, a *G. dinarica* growing in the Balkans which Kuznetzow makes a hybrid of *G. Clusii* × *G. Kochiana*.

In the Himalay there grows an *acaulis* called *G. ornata*, with very small and narrow leaves, which my friend V. Sella found at 16,500 feet in the Zernu Valley (Sikkim), and of which he gave me a splendid photograph. It was illustrated in the *Bot. Mag. T.* 6514. The engraving given in the *Gardeners' Chronicle* (29th September, 1883, page 396) is very different from the photo I have, the flowers being smaller and rather near to *G. septemfida*. As the drawing was made from a photo taken in Wilson's garden at Wisley (from a plant I saw flowering there at that date) and the other photographed *in situ*, I rather submit there are two different forms of *ornata*, or perhaps Wilson's plant was a different species.

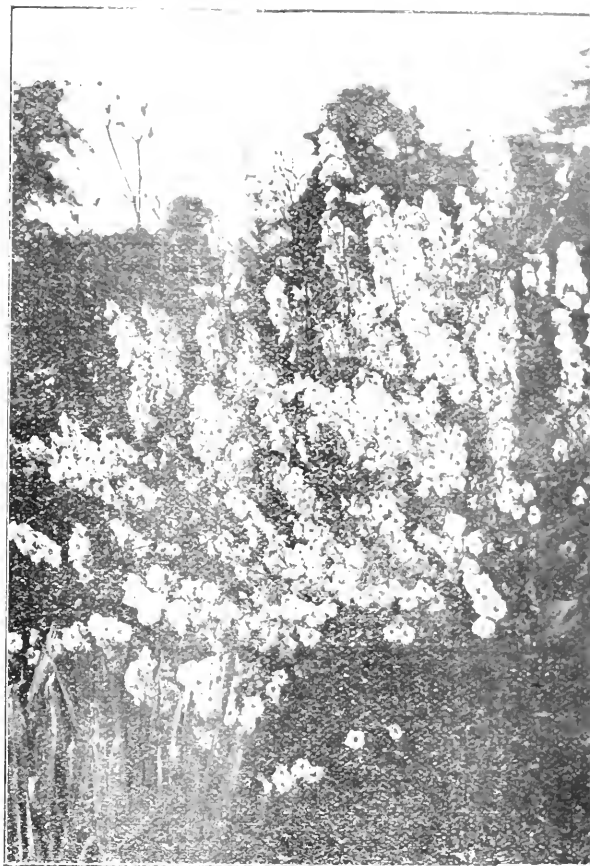
In Sella's photo, the flower is broadly open and exactly that of our *G. acaulis*; this is not the case at all with Wilson's plant. As far as I remember his plant was very far from being a *Gentianella*.

As the seeds brought from the Himalaya did not germinate here, I must keep the photo, as the one proof of the beauty of the plant. Kuznetzow in his beautiful monograph of the *Eugentiana* says (page 29) that *G. ornata* is very variable, and is near to *ternifolia*, *Przewalskii* and *Kurroo*. The *G. ornata* I grow at Floaire is Wilson's form depicted in the *Gardeners' Chronicle*. I do not think the *acaulis* form of Sikkim is in gardens.\*

Near to the *Gentianellas* are the species of the *frigida* group to which Kuznetzow joins *G. ornata*.

H. CORREYON, Floaire, Geneva.

[\* What about *G. ornata*, *G. sino-ornata* and *G. Veitchiorum*, recently introduced from China?—ED.]



ANNUAL LARKSPUR.

## War-time Flowers.

By R. M. POLLOCK.

VEGETABLES are the "star turn" of the day, and many of the little luxuries previously grown in the flower garden are now "back numbers." This no one should complain about. Food is wanted, therefore every suitable spot should be used for such. But vegetables will not grow everywhere, and even in a Cabbage there is some individuality, and there are places where it will refuse to grow. In these places a few bright, easily grown, free-flowering, reliable annuals may be sown. A selection should be carefully made, so that disappointments are avoided, and the seeds should be sown thinly, and so make a real saving.

*Antirrhinums*, the Snapdragons, of which there are tall, being up to 3 feet high, intermediate up to 18 inches, and dwarf or Tom Thumb can be raised in an ordinary unheated greenhouse or frame, or in fact in any structure where there is shelter from frost at night, and plenty of air and light by day. Sown thinly in pans or boxes, they can be pricked out when fit to handle, and then transplanted to their permanent quarters as soon as the ground is ready for them. Some of the most beautiful colours are now to be had in these *Antirrhinums*, and they come quite true from seed if purchased from a reliable source.

Coral-red, carmine-pink, deep crimson, pale yellow, and pure white, are only a very few of the outstanding good colours.

Stocks (the ten-week) can also be treated in the same way as the foregoing, and here again you have endless shades of colour, but there is a softness in these shades which is very different from the brilliant effect of the Snapdragons.

Larkspurs, Annual Delphiniums.—These are always better sown under some cover, principally because they get a better start, but also because they are such a tremendous attraction in their young state, for slugs. Slugs seem to prefer them even to Lettuce, and that is saying a lot. The accompanying photograph will illustrate to what perfection these can attain, reaching four or more feet in height when the soil is well prepared, rich and good. The deep blue (which is a really handsome blue), white and rosy-scarlet are three colours which should be included in all gardens. The flowers are produced on long graceful branches, and as cut-flowers for indoor decoration they are excellent.

Godetias, with their shiny petals like satin, may be sown in the open without any hesitation so long as it is not done too soon in the year. Early April is quite time enough. The cold harsh winds of March prevent any real growth during that month. Lady Albermarle (crimson), Duchess of Albany (white), and Satin Rose are sure doers sown direct in the borders.

Clarkia, Mignonette, Lavatera (Malloes), *Linum rubrum* (red flax), Sunflowers and Sweet Pea can all be sown out of doors, and are all, with the exception perhaps of Mignonette, sure and certain doers. Mignonette is sometimes very "pernicketty," and will do splendidly in one place and not at all in another, but by trying different parts of the garden, a successful hit may be made.

Sunflowers.—These are easily raised either singly in pots in a house or frame, or sown direct in the open. Not only are they very handsome in a bright sunny border, but the seeds have long been known as a good food for poultry, and can be mixed with other hard food for these birds.

The material for sowing annual seeds in those sown indoors is often a great difficulty. A spent hot-bed—that is, one which has been idle all winter—is excellent, but every garden cannot boast of such a luxury, certainly not now when manure of any description is almost unprocureable. The soil from a rubbish heap is a good alternative. A certain amount of soil always accumulates amongst the rubbish on a heap, and if the bottom of the heap can be got at, and this put through a rough sieve, adding a little sand, it answers the purpose well.

### Irish Mistletoe.

THIS very misleading name was given to the sprays of berries of *Cordylina australis*, and these bare stems with quantities of small white berries made a very novel dinner table decoration. This is a New Zealand plant, sometimes known in gardens as the "New Zealand Cabbage," and a considerable amount of seed must have been formed during the past autumn, as these sprays were obtainable in Dublin, and were also sold in the streets in Belfast under the title of "Irish Mistletoe."

R. M. P.

## Friends and Foes of the Plotholders' Crops (No. 2).

HAVING considered some of the friends of the plotholder, we may now consider the enemies (diseases and pests), but before doing so it might be worth while enquiring into the principal factors which tend towards the production of weak plants—plants more susceptible to attack by diseases, insects and other pests.

The principal factor affecting the plant is undoubtedly the condition of the soil. When the soil is swampy or badly drained the roots of plants can only obtain air with difficulty, consequently root development is slow, as roots, like other parts of the plant, breathe. Most garden crops placed under such conditions fail to make satisfactory growth, and soon succumb to disease or pests. Such soils again are usually sour and lacking in lime, and as a consequence diseases, like "finger and toe" or "club root" of Cabbages and Turnips, which thrive in acid media, become so abundant that it is extremely difficult to grow these and other "cruciferous" crops. Such soils, again, are usually extremely cold owing to the excess of water contained in them, which water takes a long time to get warmed and evaporated from the soil. If seeds are sown or plants, such as Potatoes planted early on such soils, they often rot in the ground before the soil gets sufficiently warm to start them into growth.

Plants also suffer through lack of moisture and of food materials in the soil. It is very probable that the peculiar dwarfness and complete failure of some of last year's Potatoes were due to planting in lazy beds, too late cultivation of grass land and to the abnormal drought of June and July, which left the soil in a very dry condition.

The best means of securing a sufficiency of water and of good materials for crops is first of all deep cultivation fairly early in the season.

When soils are shallow or only "tickled" or scratched over the roots of plants do not go down deeply, consequently less food materials are available for them. Not only is this the case, but, owing to the solid and impervious layer at the bottom in such soils, most of the rain will have passed over it to the lower parts of the ground and be of no value to next year's crop; whereas when this hard layer is broken the water will go directly down into the subsoil, where much of it will remain to rise again in the spring and summer, when the surface soil begins to get dry. By deep cultivation far more water is thus available for the crop, and as most crops only take in their soil foods when dissolved in water—just like sugar in tea in case of humans—it follows that apart from the increased feeding space, the amount of available food matter, the descent of roots in the moister levels, the crops will find their food easier than otherwise. If in addition moisture-holding material such as vegetable refuse, leaves, straw or peat manure is placed in the lower levels when trenching is being done, the crops will suffer less in dry seasons. In other words, deep cultivation will help to solve both the water question and manure difficulty on allotments, and given the usual supplies of



manure, crops may be produced which will be far superior in health and quality to those grown with similar, or even larger, quantities of manure on badly dug or insufficiently cultivated plots.

Crops often suffer and become unhealthy through being grown continuously on the same ground. It is generally agreed that certain types of plants take more of certain food elements from the soil than do others, crops like Potatoes taking up considerable quantities of potash, while others like Cabbages use up quantities of nitrogen and not so much potash. In such cases it is often found that when the one crop succeeds the other better results are obtained than when crops of the same kind are grown continuously on the same portion of the plot. Not only so, but when crops such as Cabbages are grown on the same ground continuously it is found that the soil is literally alive with the germs of the disease or eggs of the pest when the new crop is planted. Hence we have in the garden some attempt at any rate to rotate the crops just as in the farm. (I am not going to pretend here that gardeners in ordinary practice do not manage by means of thorough cultivation, heavy manuring, the free use of lime, wood ashes and other substances to secure good crops of Onions or Celery as the case may be year after year on the same ground, but these are special cases.) On allotments it will pay to shift about the crops each year, so that a crop such as Potatoes is not grown for three or more consecutive seasons on the same ground.

Of food elements which seem to have important bearings on the health of plants we have Nitrogen, Potash and Lime. When nitrogenous fertilisers, such as Nitrate of Soda and Sulphate of Ammonia, are used too freely, plants tend to become sappy, just as when they receive too much water, growth is over rapid and not consolidated: on such plants disease and insect pests soon have a happy time. Apart from which, the plants are more easily bruised, and when sent to market travel badly, and wilt or become stale quickly, although looking extremely fresh at first. On the other hand, when Potash or Lime is lacking, or present in insufficient quantities, crops are specially subject to attack by disease.

The importance of Lime in this and other connections cannot be too often emphasised.

Overcrowding of plants, especially in the seed bed, is a further factor which tends towards the development of ill-health in plants. When plants are overcrowded they compete with each other below ground for root-room, food materials, air and water, consequently each individual, excepting some one or two which happen to be well placed, gets less than it otherwise would have: while above ground this overcrowding results in long-drawn specimens, each trying to get up to the light and air with the utmost speed, the one shading the other, so that the leaves of most of them do not get the usual amount of sunlight, and consequently less food is made in the leaf. (It is a well-known fact nowadays that the green parts of plants, more especially the leaves, are responsible for building up the carbon compounds which form the bulk of the material of which plants are composed.)

That under the influence of sunlight the plant

is able to take hold of the carbon contained in the carbonic acid of the air and change it into sugars, &c.,—and at the same time setting free the oxygen—thus purifying the air for animals.

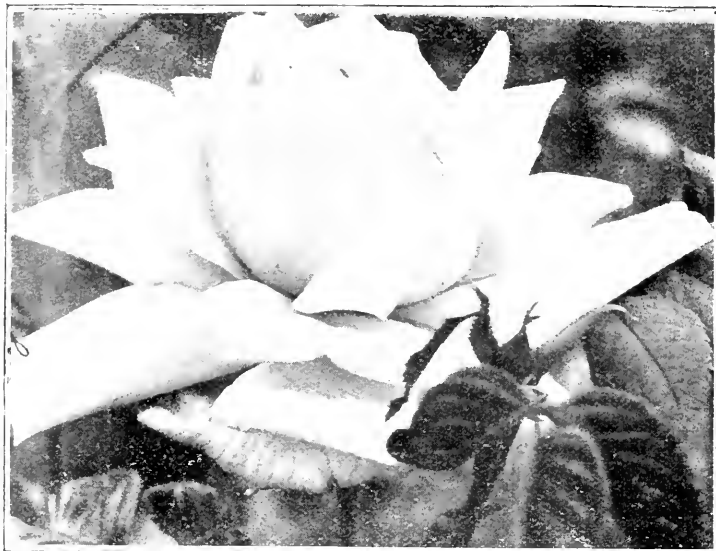
When seedlings are grown thinly, so that no overshadowing or overcrowding takes place, and the necessary food materials are present, the growth is more sturdy, less liable to be affected by damping off and other diseases, bigger and better crops are produced. Overshading may also be caused by trees, the effect of which—especially if on the south side of the garden, apart from the extreme drying action of the roots and the water thrown off by the foliage—prevents most vegetable crops from becoming a success. Weeds again contribute materially towards ill-health in plants—first of all by acting as overcrowding and food-robbing agents, as in the case of too many plants of the one kind referred to above, and, secondly, serving as host plants on which various insect pests and diseases may exist or thrive until their particular crop comes around to the plot again.

In towns and by roadsides crops are often badly affected by the dirt which is deposited on the leaves and stems of plants. This clogs up the openings through which the necessary air passes, consequently such plants become stunted in character, not only so, but in specially smoky towns and cities the amount of acid deposited is very considerable, so much so that the surface soil often becomes abnormally sour: in the latter case the free use of lime becomes an absolute necessity, while in the former it often pays to give the crops a good cleansing by means of garden hose or syringe.

Apart from the actual clogging of the pores it should be remembered that soot or other substances on the leaf materially affect the amount of sunlight received, while fogs have a similar effect in preventing light from having its full effect, as is well-known to those who live in districts affected by fog. It frequently happens that allotments have been placed on old dumping places, where street and other refuse has been deposited. Such sites often contain poisonous substances, such as tar, in which cases good health cannot be expected in plants. If plants are damaged in any way—by rough handling or severe frosts—they are more susceptible to decay than would otherwise be the case. Apart from these questions, which are mainly those of environment, other factors, such as plant habit and heredity, play a most important part in the production of healthy or non-healthy plants. It is well known that certain varieties of Potatoes, such, for instance, as Windsor Castle and British Queen, are highly susceptible to Potato Blight, while others, like Aran Chief, are not so quickly affected. And again, the varieties like Up-to-Date, are susceptible to black scab or wart disease, while others, such as Great Scot, are said to be immune.

To sum up, choose first of all plants of a good strain and habit of growth. Cultivate deeply and thoroughly, then less will be heard of pests and diseases in gardens and plots. W. H. J.

(To be continued.)



ROSE LA FRANCE.  
A Hybrid Tea—Colour, silvery rose.

### Seed Sowing

DURING the next few weeks we shall be passing through the most interesting and anxious period of the year—seed sowing time—with its renewal of hope and promise of harvest. All nature, feeling the impulse of this season, spends boldly of its gathered force. They who have not felt that pleasure, which free germination brings to the sower, have missed one of those subtle pleasures which are the reward of the successful cultivator.

No hard and fast rules for seed sowing, applicable to every kind of seed and season, can be laid down, as seeds and seasons vary so much; but failures can generally be attributed to one or more of the following causes:—

1. **BAD SEED.**—This is usually avoided by purchasing from a reputable firm.

2. **POORLY PREPARED SEED BED.**—Success can only be assured if the surface soil is broken into fine particles, the smaller the seed the finer the soil particles must be.

3. **FAULTY SOWING.**—Sowing should be done when the soil is *dry* and the smaller the seeds the nearer the surface they should lie. Beginners are inclined to bury their seeds too deeply, with the result that many seeds have exhausted the store of food that they carry before reaching the light; or if they emerge they are nearly exhausted, and cannot exist longer should the weather prove unfavourable, at that time. Small seeds, like Parsnip, Carrot, Leek, &c., should not lie more than  $\frac{1}{4}$  inch below the surface. As a general rule, sow seeds at a depth equal to twice their own size.

4. **ANIMAL FOES** (Birds, Mice, Slugs, &c.).—The depredations of the first two are easily observed and stopped, but the slug, less evident in its mischief, may destroy much before he is observed.

A. M'L. MAY.

Dundoon, Coleraine, 19th Feb., 1918.

### Lectures for Plotholders.

UNDER the auspices of the Corporation Land Cultivation Committee, Dublin, Mr. P. McGrath, Horticultural Instructor, Marino School of Gardening, delivered a very interesting and practical lecture at the Charleville Library, North Strand, on the 5th February.

The Rev. Fr. Moriarty, who presided, referred in very appropriate terms to the huge yield of crops per acre in some countries as compared with others, though the best crops did not necessarily follow on good soil. This he attributed to science and to proper and systematic cropping and manuring of the land. He felt assured that the lecturer, who had both a sound practical and technical training, would lay before the large number of plotholders who were present many points which would help in producing the maximum yield of crops on each plot.

Mr. McGrath, whose capabilities were already known to many of the Marino plotholders, dealt very clearly with the various soils, the necessity of good cultivation in winter, and the results obtained by exposing the greatest possible area to weathering agencies. He gave a very interesting account of how plants take in their food, how it is manufactured and stored for use. In this he clearly showed how necessary it was to cultivate the ground thoroughly, thereby enabling the roots to travel in search of the necessary plant-food.

The portion of his lecture on Manures was most interesting. He described the manures suitable for various crops and soils, the quantities to be applied and when to apply them. He pointed out the necessity of storing farmyard manure properly, and explained how loss is caused by allowing it to lie loosely.

He is a strong advocate of liming, and explained its effects on soils. A very interesting discussion

took place principally on manures and liming, and the lecturer dealt very fully with all questions.

The lecture proved most interesting, and the thanks of the meeting to Mr. McGrath was proposed by the Rev. Chairman and passed with acclamation. Mr. McGrath having suitably replied, the meeting terminated.

## Allotment Observations.

By J. HURLEY, Superintendent, Corporation of Dublin Land Cultivation Committee.

WORK on allotments during the past month has been steady and earnest. Despite cold spells of weather many plots are ready for planting when a favourable opportunity arrives. The Land Cultivation Committee has placed its orders for the various varieties of Potatoes with the seedsmen, and these will be dispatched in due course.

During the past week the Corporation Land Cultivation Committee has allotted the following lands in  $\frac{1}{2}$ -acre plots for cultivation:—Crown Lands, Inchicore, 26 acres 2 roods; Rutland Avenue, Dolphin's Barn, 30 acres; Fairfield, Glasnevin, 4 acres; Dublin Distillers' Co., Marrowbone Lane,  $1\frac{1}{2}$  acres; Croydon Park, Fairview, 10 acres; Hill Estate, White Hall, 5 acres; Emmett Road (Bentley's Field), Inchicore, 4 acres.

To obtain a plot in any of the above areas each applicant had to ballot, and in many cases for one who received a plot five did not. At a time such as this, when food is scarce and likely to be much more so, some means should be given to men who are willing to raise food to help in supporting their families. If no more land is to be got by the Corporation for allotments, and there are 1,000 men who failed to get a plot each, it means, at the very lowest calculation, that Dublin has been deprived of 1,000 tons of Potatoes, which Dublin men volunteered to grow at their own expense.

The time is going quickly by, and roughly 20 per cent. of the applicants for plots are being supplied. What is to be done for the remaining 80 per cent.? The Corporation has done its bit beyond doubt, and though only 100 acres were compulsorily acquired at the recent Local Government Board inquiry it (the Corporation) will continue in its uphill fight to supply every man who filled in an application form with a plot of ground to cultivate.

## Allotments and School Gardens.

By L. J. HUMPHREY.

THE value of a demonstration plot in connection with allotments and school gardens depends very largely on the instructor who has charge of it. The lesson it should teach is that better use can be made of the soil than the majority of cultivators realise. It should not be regarded as an experimental plot in which varieties of vegetables are grown for the sake of comparison. Different methods of cultivation may be tried to demonstrate the advantages and disadvantages of each. For example, the results of broadcast sowing as compared with sowing in drills may be shown by a very simple arrangement of the plot.

The plot should be small, and the number of plots under the charge of the instructor should be few in number in order that he may have as much free time as possible to enable him to visit the other plots and to discuss with the cultivators the methods adopted.

It is sometimes contended that formal lectures are of very little use, and that the only useful instruction is that which is given by actual working demonstrations to each individual plot-holder. But this need not be the case if the lecture is clearly thought out beforehand. An experienced lecturer used to outline his plan of giving his lecture as follows:—He would first prepare a list of the points which he wished his audience to remember. The points would probably be few in number, perhaps twelve to twenty for an hour's lecture. Each of these points would then be considered in detail and the lecture would really consist of a number of five-minutes lectures on each point. There are very few instructors or gardeners who cannot talk interestingly and to the point for five minutes, and by listing up each of the five-minute lectures a useful and interesting lecture can be given.

In connection with gardening the easiest method of arranging the lecture is in the order in which the practical operations would be carried out. For example, in dealing with the cultivation of vegetables the first point to be considered is the preparation of the soil. In lectures to beginners the simplest methods would be described and recommended, while in lectures to more experienced cultivators other methods could be referred to, discussed and compared; but care must always be taken to avoid introducing matter which might tend to confusion in the mind of any member of the audience.

When a lecture has been thus prepared in outline, the illustration of it can be dealt with. Such illustration may be by means of actual experience—of reminiscences of what has happened under certain circumstances, or the illustration may be by means of lantern slides, actual specimens of crops or soils, or blackboard diagrams. All of these methods can be used to very great advantage on occasion, but sometimes one method will be right and sometimes another.

Allotment holders in towns form audiences very different from the labourers in the rural districts. In the towns they will very often know very little about agriculture, the effect of weather or season on crops, but they will usually be quick to take advice and instruction. Their town experiences will have caused them to act according to directions and to attach more importance to leaflets and printed instructions. On the other hand, the rural audience will usually include a considerable proportion of agricultural workers who are familiar with agricultural, if not horticultural, conditions. The lecture, therefore, which would be a success in the rural district would not be appreciated in the towns, and this is a point well worth remembering when lectures for plot-holders are being arranged. The important point, however, in each case is that practical methods of working should be clearly and definitely described and dealt with so as to leave no possibility of doubt in the mind of any member of the audience as to the intentions of the speaker.



# March The Month's Work.

## Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork

### THE KITCHEN GARDEN.

THIS will be a busy month in the vegetable garden. If weather conditions are favourable, planting and seed sowing will commence in real earnest.

**POTATOES.**—The main crop can now be got in, 30 inches between the rows and 12 inches between the sets will be ample space for most varieties; strong growing sorts may be allowed 6 inches more between the rows. No doubt stable manure gives the best results for the Potato crop, but, if this is not to be had in sufficient quantities, use a little of some good artificial manure.

**PEAS.**—Sow Peas at regular intervals, according to the demand that may be expected for them. If one plot is given up to Peas, six feet should be allowed between rows of tall growing varieties. A line or two of summer Spinach or White Turnips can be sown between the rows. If rats or mice are troublesome means must be taken to destroy them at once. I have seen whole rows of Peas destroyed in a couple of nights.

**BROAD BEANS.**—Sow long-pod varieties on well prepared ground, in double rows, 9 or 10 inches apart, allowing 6 inches between the seed; measure off 3 feet before drawing for the next row.

**CABBAGE.**—Sow Cabbage, for late summer and autumn use, in drills 9 inches apart. It is very important that the ground is dry when sowing seeds in the open; if wet and cloggy when trampled on it will crack and become caked as soon as a dry spell sets in. Harbinger, Daniel's Defiance, and Enfield Market are good sorts to sow now.

**SALSIFY.**—Sow in drills 15 inches apart in deeply dug ground. Fresh manure must not be used for this crop; like the Parsnip, it causes forking of the roots.

**PARSNIPS.**—As early in the month as the ground can be got ready sow the full crop of Parsnips. Draw drills 15 inches apart, drop 3 or 4 seeds every 6 inches; these can be thinned out to one when seedlings are strong enough to handle.

**TRIPOLI OR WINTER ONIONS.**—Plant those out where they are to mature. Make the ground firm by treading, and plant with a dibber, taking care not to plant too deeply, in rows one foot apart and 6 inches between the plants.

**SPINACH.**—Sow summer and also Spinach Beet; the latter of late years has become a very popular vegetable, and is now grown in most gardens.

**BEETROOT.**—Sow a few drills on a warm border for early use of the Turnip-rooted varieties.

**TURNIPS.**—Make sowings of Early Snowball and strap-leaved varieties.

**SEAKALE.**—Where it is intended to make new plantations of Seakale, the ground must be deeply dug or, better still, trenched, at the same time working in a liberal supply of manure. Plant the sets with the crown slightly below the surface.

**CAULIFLOWER AND BROCCOLI.**—Sow Veitch's Autumn Giant Cauliflower and early Winter Broccoli. Late winter and spring Broccoli will be time enough to sow next month.

**TOMATOES FOR PLANTING OUTDOOR.**—Sow some of those varieties recommended for this purpose. Place in heat until the seedlings are large enough to prick off into small pots, then gradually harden off until the end of May or early in June, when they can be planted out against a south wall.

Sow Vegetable Marrows in boxes, and pot off singly when the seedlings have made a pair of leaves.

### HARDY FRUIT GARDEN.

If any pruning still remains to be done it should be attended to at once. Clean up all prunings and burn them. All trees on walls should be carefully examined to see that all ties are secure, especially on old and heavy trees. Fig trees are usually the last to be taken in hand. If the tree is getting overcrowded, remove one or two large branches, this will allow the remaining branches room to be spread out. Cut back newly planted canes of Raspberries and Loganberries six inches from the ground. Peaches coming into flower must have nets or other protecting material hung over them at night, a very slight frost might ruin the whole crop.

### FLOWER GARDEN.

Geraniums will now require to be potted off singly into small pots. Those who have not sufficient pots to spare for this purpose might try

the following plan, which I have now adopted for some years :—Procure a load of sods from an old pasture, cut three inches thick. Cut each sod into 3-inch squares, this can be done easily and quickly by using the edging knife. Cut a hole in the centre of each square with an old knife, taking care not to cut through the grassy side. When sufficient sods are ready shake out the cuttings from the box, place one plant in each square, fill up the hole with a little of the soil from the cutting box, and press firmly with the fingers. They can then be packed into the boxes or stood close together on a bench in the greenhouse that has been covered with coal ashes. Spread a little fine soil or leaf-mould over the sods before giving a good watering. In a couple of weeks' time the roots will have taken a firm grip of the sod. They can then be moved about without the least fear of injury. Sweep and roll lawns, cut grass edges and give a general tidy up.

Roses will now require attention. Cut away the old wood of pillar Roses and carefully tie in the young growth. Hybrid Teas and Hybrid Perpetuals will require cutting hard back : weak growths should be pruned back to one or two eyes, four to six eyes can be left on stronger growths. When all prunings are cleared away give the beds or borders a dressing of artificial manure or a good dusting with soot and fork lightly over. Sow seeds of Asters and other half-hardy annuals, and place in gentle heat. Prick off Stocks and Antirrhinums into frames or boxes as they become strong enough to handle.

## Midland and Northern Counties.

By E. RUTHERFORD, Gardener to C. W. Dunbar  
Butler, Esq., D.L., Woburn, Donaghadee.

### THE KITCHEN GARDEN.

**ARTICHOKES (JERUSALEM)** may now be planted. Use whole sets if possible, or cut sets with about three eyes in each. Choose a strong deep soil : give plenty of room. During summer they are most useful in hiding an unsightly corner of fence.

**PEAS.**—Sow some of the tall growing marrows in succession and, allow plenty of room between the rows : the ground between can be cropped. The sowing made in heat in January can be planted out in prepared trenches, protecting them by a few closely placed spruce or fir branches.

**ONIONS** can be sown as soon as the ground is in good order, the beds having been well manured and deeply dug during the winter. Fork the ground over. All humps should be broken and the surface made fine : it should be well trodden over to make firm. If wood ashes or soot can be had scatter it over the bed and rake over. Sow the seed in shallow drills 11 inches apart, and cover lightly and rake over to give a neat appearance.

**SEAKALE.**—Plantations may now be made of the thongs previously prepared : they should be planted on strong rich ground, deeply dug and manured, and fully exposed to the sun : plant in rows 2 feet apart and the roots 14 inches apart in the row : set the roots with a dibber and cover lightly. For forcing in the open the thongs should be planted in clumps of 5 or 6 to permit

of covering as many crowns as possible with Seakale pots or boxes. Sufficient space should be allowed between the clumps for the fermenting material.

**TURNIPS.**—Make a sowing towards the end of the month of White Milan in rows 14 inches apart. Thinning should be commenced as soon as the rough leaves appear.

**RHUBARB.**—Plantations may now be made, the soil should be trenched or deeply dug, and apply a heavy dressing of farmyard manure. Make the rows 5 feet apart, and plant the roots 4 feet apart in the rows, and afterwards apply a mulch of long manure.

**RADISHES.**—A sowing may now be made on a warm border. Sow the seed thinly and protect from birds.

**LEEKS** should be now sown on rich ground, well prepared and moderately thick, as they must be transplanted into their permanent quarters.

**CELERY.**—For the earliest supply, a sowing may now be made on a mild hot-bed or in boxes in a warm house, using a rich, fine soil and cover lightly. As soon as the plants are fit to handle, prick them out three inches apart into frames on a half spent hotbed, and keep close for a few days and keep moist. Afterwards give ventilation in fine weather. Celery should never be dry at the roots at any stage of its growth.

**BRASSICA.**—About the middle of the month the following sorts may be sown on a warm border :—Cauliflower, Cabbage, Brussels Sprouts and Broccoli for autumn use. Protect the seeds from birds and, as soon as the seedlings appear, dust with lime or soot.

**CAULIFLOWERS.**—Towards the end of month, transplant some of the strongest plants out of frames into rich ground. It will be necessary to choose a sheltered situation for this crop.

**REMARKS.**—Owing to the month of February being so wet, work will be very much in arrears in the kitchen gardens. Make good all arrears, especially in the preparation of seed beds. If the ground is wet, it is better to wait to the end of the month before sowing seed than to sow on pasty ground.

### THE FLOWER GARDEN.

**BEDDING PLANTS.**—Pelargoniums may now be propagated, they will root readily in pots, using a light sandy mixture with a layer of rough loam at the bottom for the roots to take hold. No time should now be lost in rooting batches of Heliotrope, Petunia, Lobelia, &c., in brisk bottom heat.

**GLADIOLI** may be planted towards the end of the month. Choose a sheltered but not shaded position. A friable loam with a cool rich subsoil is best, the ground having been deeply dug and manured during the winter. Give the ground a light forking but not deep enough to bring up the manure and make the surface level.

Open narrow trenches about 20 inches apart and 6 inches deep, put some sand for the bulbs to sit on, and to allow the roots to work into at the start. Cover with about 5 inches of soil for large bulbs, but for small ones 2 inches are enough.

**EVERGREEN SHRUBS** can now be pruned and reduced in size. Saw out a few of the old ex-

hausted branches. This will give space for young growths to take their places. Aim at preserving a proper balance in the shrubs.

**PRUNING ROSES.**—The pruning of Roses should be commenced towards the end of the month. Young plants should be cut hard back to obtain strong growths. In all cases cut away weak or unripe wood, leaving only the strong, well-matured growths. Strong growing kinds should be cut back to five or six eyes, the weaker sorts must be pruned closer, leaving two or three eyes to each shoot. Cut out all superfluous shoots from the middle of the trees.

**HALF-HARDY ANNUALS.**—These, if not sown last month as recommended, should be sown as early in this one as possible.

#### HARDY FRUIT GARDEN.

**GOOSEBERRIES AND CURRANTS.**—The pruning of these trees being finished, let the ground among them be dug over, adding manure, if necessary; dig carefully, so as not to injure the roots. Where bullfinches are troublesome they do a lot of damage to the buds of Gooseberry bushes. In damp weather lime shaken among the bushes will help to protect them.

**PRUNING FRUIT TREES.**—Any pruning not finished in the preceding months should be completed as soon as possible, as Plums, Cherries and the early sorts of Pears are now coming into flower. Orchard trees may still be done. All young trees planted last winter or this spring should be now pruned according to their various sorts and ways of training to be afterwards adopted.

### Economy in the Use of Vegetable Seeds.

**SOW IN DRILLS AND NOT BROADCAST.**—This will save seed, reduce labour in thinning, and make cultivation and weeding less laborious.

**SOW THINLY.**—Many people habitually sow seeds extravagantly, thus increasing expense and labour. In ordinary times this may not matter greatly, but now it may mean that by so doing they would deprive their neighbours of a fairshare of the restricted supplies available.

For such crops as Parsnips, Beets and Beans, which have to stand singly at certain distances apart, do not sow a continuous line of seeds. Instead, sow from one seed in the case of Beans, to eight or ten in the case of Parsnips, at intervals corresponding to the distances apart at which the plants are ultimately to stand.

The following table gives the length of row for which 1 oz. of seed will be sufficient, assuming this method of sowing is adopted:—

1 oz. of seed of—	Sown—	Will suffice for rows totalling—
Beet ... ..	8 ins. apart ...	400 ft.
Carrot ... ..	6 .. ..	600 ..
Chicory ... ..	9 .. ..	600 ..
Lettuce ... ..	6 .. ..	600 ..
	small varieties	
	12 ins. apart for large	900 ..
Onions for harvesting ...	4-6 ins. apart	350-480 ..
Onions for pulling green ...	continuously along the drill.	180 ..

1 oz. of seed of—	Sown—	Will suffice for rows totalling—
Parsley ... ..	4-6 ins. apart	350 ft.
Parsnip ... ..	8 ins. apart ...	300 ..
Salsify ... ..	8 .. ..	250 ..
Spinach ... ..	6 .. ..	250 ..
Swede ... ..	9-12 ins. apart	800 ..
Turnip ... ..	6 ins. apart ...	600 ..

1 pint of seed of—	Sown—	Will suffice for rows totalling—
Broad Bean ... ..	9 ins. apart ...	100 ft. double row
Dwarf Kidney Bean 6	.. ..	200 ..
Scarlet Runner ... 9	.. ..	100 ..
Pea ... ..	2 .. ..	60-80 ..

1 oz. of Cabbage of any kind (Broccoli, Cauliflower, Kohl Rabi, Kale, Brussels Sprouts, etc.), Leek, Onion; and one-third of an oz. of Lettuce will provide 1,000 plants for transplanting if sown outdoors. When sown under glass the amount required is half that given above. 1½ oz. Cucumber, ½ oz. Tomato, ¼ oz. Celery, 6 ozs. Vegetable Marrow and 18 ozs. of Pumpkin seed will each provide 1,000 plants for growing on.

**WHEN POSSIBLE SOW SEEDS UNDER GLASS FOR TRANSPLANTING.**—This may be done either in a cold frame or in boxes covered with glass. The method applies to Leeks, Spring Onions, early Lettuces, Cauliflowers, Broccoli, Cabbages and the like. The protection thus given makes germination quicker and more certain, often gives earlier crops, and there need be no waste.

**DO NOT SOW WHEN SOIL AND OTHER CONDITIONS ARE UNSUITABLE.**—The soil should be moderately moist and free, not wet, cold and heavy. Do not sow tender things like French Beans and Scarlet Runners in the open until the seedlings are reasonably safe from late frosts.

**PROTECT YOUR SEEDS AND SEEDLINGS.**—They have many enemies. Seeds such as Peas and Radishes, which are liable to attack by birds, may be protected by damping and dusting them with red lead before sowing. Soot or lime, sharp grit or finely sifted ashes will keep slugs away. Attacks of the onion fly and cabbage root fly may be warded off by dusting the young plants with soot, by dusting sand or ashes damped with paraffin along the sides of the rows, or by watering with soap suds.—Issued by The Food Production Department, 72 Victoria Street, London, S.W.1. 28th September, 1917.

### Correspondence.

L. FRAGRANTISSIMA AND L. STANDISHII.

DEAR SIR,—There is apparently much confusion between *Lonicera fragrantissima* and *L. Standishii*. I have seen them described as identical. I believe them to be distinct, and that the one that flowers from December on is the true *L. Standishii*. I find that whereas *L. fragrantissima* strikes readily from cuttings, it is extremely difficult to propagate *L. Standishii*. I should be glad of an authoritative opinion regarding these two plants, both charming but quite distinct.—Yours faithfully, O'MAHONY.

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# My Garden

WATERFORD

FOOD PRODUCTION

MARCH 1918



THE year 1918 may or may not see an end to the lamentable contest in Europe. But, whatever happens, every indication points to the necessity for increased food-production. The inevitable scarcity of meat should be met as far as possible by developing the food resources of the soil. While it is the duty of the farmer to augment the cereal crops, it is no less the duty of every one possessing a garden to get as much food out of it as possible—every square yard should be made to yield its quota. Peas and Beans are deserving of greater consideration than was generally deemed necessary last year. Should you be face to face with a meatless day a dish of either of these legumes might be found no bad substitute. Their nutritive value is in excess of that of beef. Don't omit a fair proportion of Beet, Parsnip, Onion and root crops generally,

Avoid waste either by purchase in excess of your requirements or by unnecessarily thick seeding. Remember seeds were never so scarce. We have, however, covered your requirements—i.e., provided you send in your order in good time. Don't wait the advent of sowing time. There are many new claimants in the field. It will be "first come first served." If our catalogue has failed to reach you please drop us a postcard.

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# Irish Gardening

## Contents

	PAGE		PAGE
The Black Poplars (Illustrated) . . .	49	Alpine and Rock Plants . . .	58
Preserving Fruit without Sugar . . .	51	The Common Sense of Allotments . . .	61
Haricot Beans . . . . .	52	Allotment Observations . . . . .	62
Flowers of March . . . . .	53	Demonstration Allotments . . . . .	62
The Fruit Industry . . . . .	54		
Subjects for the Rock Garden . . .	54	The Month's Work—	
Rhododendron cuneatum (Illustration) .	55	Southern and Western Counties	63
Friends & Foes of Allotment Holders' Crops	55	Midland and Northern Counties	64



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# IRISH GARDENING

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EDITOR J. W. BESANT

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## The Black Poplars.

By PROFESSOR A. HENRY, M.A., Royal College of Science, Dublin.

THE Black Poplars are distinguished from the other kinds by their leaves having the same tint of green above and below, so that it is impossible to tell the upper from the lower surface by the colour alone. The name is not due to any blackness in the wood, bark, &c., of these trees, and is evidently applied in contradistinction to the white and grey poplars, whose leaves have a woolly under surface, and to the balsam poplars, the lower surface of the leaves of which have a peculiar whitish tint, not caused by the presence of wool or down. In the aspens, another class of poplars, the leaves have a paler tint of green beneath than above.

Each region of the Northern Hemisphere outside the tropics has its peculiar species of black, white, balsam, and aspen poplars. The main species of black poplar are *Populus nigra* in Europe, and *Populus deltoides* in Eastern North America. We need not now concern ourselves with the species of Western North America, *Populus Fremontii*, *Wislizeni*, and *mexicana*, which are practically unknown in this country, except by one or two specimens of the first-named, in botanic gardens.

The American black poplar, *P. deltoides*, called cottonwood in the United States, is readily distinguishable by the presence of a fringe of cilia around the edges of the leaves, readily seen with a lens, and by two or more conspicuous glands at the base of the blade, close to its junction with the stalk. The stigmas are three or four, and the stamens 50 or 60 in the flowers of the American species. In the European *P. nigra*, there are no marginal cilia or basal glands on the leaves, and the stigmas are only two, and the stamens 15 to 30. These differences are easily remembered, as

there is a deficiency in the European species in the characteristics noted.

So much for the distinctions which hold good for the two main species; but the subject is complicated by the sub-division of each into several forms. There are two geographical forms of *P. nigra*, each occupying a distinct territory in the wild state. The typical form, so called because it was the one that Linnaeus knew best, and planted in his garden at Upsala, is prevalent in eastern Europe, where it forms immense groves on the alluvial flats of the big rivers like the Danube, Save, Dnieper, Po, &c., growing in ground too wet for ash, oak, and elm. It is distinguished by the complete absence of hairs on its twigs and leaves. The other form of the European black poplar, *P. nigra betulifolia*, is confined to France and England, and differs from the last in having hairy twigs and leaves. It may be popularly styled "English Black Poplar."

Practically speaking, a black poplar, having the trunk covered when old with burs, and with wide-spreading, closely-set branches and hairy twigs and leaves, may be assigned to var. *betulifolia*. It is not indigenous in Ireland, where it is, however, occasionally planted. It bears wind better, but grows much slower than the hybrid black poplars, of which I will speak presently. Old trees attain a great age, one at Mallow being perhaps the finest in Ireland. In 1909, it measured 90 feet in length, and 19½ feet in girth around the trunk at 5 feet above the ground. There is one nearly as large, but with a hollow trunk, at New Ross; and others at Callan, from which I have raised seedlings that grow very slowly.

To the public at large, the Lombardy poplar



POPULUS REGENERATA AT GLASNEVIN.

(By the courtesy of the Royal Scottish  
Arboricultural Society).

is the best known poplar. This is not a species or geographical form, but is a peculiar sport of *P. nigra*, var. *typica*, which was unknown until the 18th century. It originated about 1700 as a single tree on the banks of the Po, characterised by branches tending to grow vertically upwards, thus forming a narrow crown. It is invariably propagated by cuttings; and all the Lombardy poplars now spread over the world are simply slips of the original tree. This happened to be a male tree; and in consequence, all the trees derived from it bear staminate flowers. The wide-spreading natural form of the typical *P. nigra* is rarely seen in cultivation in these islands.

The American species, *P. deltoidea*, is also extremely rare at the present time in Europe. In fact, all the black poplars, so commonly seen in cultivation in these countries, and in France and Belgium, which are supposed by many botanists to be the American species, are not that species; and are without doubt hybrids between the American and European species. This fact is easily established from their history and a study of their botanical characters. With the introduction, at the end of the 17th century, of American trees into Europe, hybrids between them and the allied European species soon began to appear as natural seedlings in

nurseries; and in no genus are they so readily produced as in *Populus*, where the individuals occur in two sexes. Moreover, hybrid seedlings are readily noticed, as they are endowed with exceptional vigour, and nurserymen were not slow in propagating these profitable trees. I have elsewhere given the history of the different hybrid poplars; and I need here allude only to the best-known and most valuable kinds. The hybrids have leaves intermediate in shape, never shallowly cordate at the base, as in *P. deltoidea*, and never cuneate, as in *P. nigra*; the marginal cilia are sparse and irregular; and the basal glands are variable on the leaves of the same branch, absent on one or two; not always present, as in *P. deltoidea*; nor always absent, as in *P. nigra*.

The principal hybrid poplars are:—

1. *Populus scrota*.—A tree with staminate flowers, always known in England as the Black Italian Poplar, a misnomer, as it originated in France before 1755, and has no connection with Italy. It has non-hairy twigs, and is the latest of all the poplars in unfolding its leaves, which in the young state have a fine bronzy tint. It has ascending branches, and a wide head, and is the commonest poplar in England, where it



POPULUS EUGENI AT KEW.

(By the courtesy of the Royal Scottish  
Arboricultural Society).

grows fast, reaching an immense size, and producing a useful timber. It suffers much from wind in Ireland, and is a failure in exposed situations, being readily smashed by gales. Its cultivation is not to be recommended, except in sheltered valleys; and here it would often be better to grow ash, unless the soil is very marshy. The finest specimen that I have seen in Ireland was a tree at Killeera, south of Kilkenny, on a flat of the Nore, which was blown down in 1915. It measured 125 feet in length, and the trunk was no less than 11 feet 10 inches in girth at 5 feet from the base.

2. *Populus regenerata*, the "Eucalyptus" poplar.—This is a female tree, which originated in a nursery near Paris in 1814. It resembles the Black Italian Poplar in twigs and leaves, but the latter open at least a fortnight earlier. It is narrower in outline than *P. serotina*, and has much the same rate of growth. It suffers in Ireland from wind.

3. *Populus Eugeni*.—This is a male tree, with similar twigs and leaves to those of *P. serotina*; but the leaves are smaller, and open earlier; and the outline of the tree is distinctly narrow. It was found in 1832 as a chance seedling in a bed of silver firs in the nursery of Simon-Louis, near Metz. It thrives well in sandy soil at Kew; but has not been tried in these countries on a commercial scale.

4. *Populus robusta*.—This was also found as a stray seedling in Simon-Louis' nursery, in 1895. It differs from the preceding in having hairy twigs, and is remarkably narrow in form. The branches, however, are ascending at an angle, and not vertical, as in the Lombardy poplar. It bears staminate flowers. The best example is a tree at Glasnevin, which was obtained as a cutting in 1899. It measured in October, 1917, 56 feet in height, and 2 feet 8 inches in girth at 5 feet from the ground. It promises to be an excellent timber tree; and possibly, on account of its narrow form, may stand the wind better than the other hybrid poplars. It should be tried in exposed wet ground in Ireland, where the success of other species would be problematical.

At Glasnevin these four hybrid black poplars are growing together, and their relative growth and resistance to wind can be readily seen. The following table shows their comparative size:—

	Date of planting	Girth in Autumn, 1912		Girth in Autumn, 1917
<i>P. serotina</i>	1886	6 ft. 6 in.	7 ft. 2 in.	
<i>P. regenerata</i>	1889	4 ft. 11 in.	5 ft. 9 in.	
<i>P. Eugeni</i>	1889	4 ft. 5 in.	5 ft. 1 in.	
<i>P. robusta</i>	1899	2 ft. 1 in.	2 ft. 8 in.	

## Preserving Fruit without Sugar.

By J. B. Pow.

THE preserving of fresh fruit by sterilization is a practice that should be better known in Ireland. It is neither an expensive nor difficult operation, and all who have a fruit garden, with



POPULUS ROBUSTA AT GLASNEVIN.  
Lombardy Poplar on left.

(By the courtesy of the *Gardeners' Chronicle*.)

a surplus of fruit, should turn their attention to this subject, and I am sure they will be delighted with results. In sterilizing we have two objects in view—excluding air and killing any bacteria that adhere to the fruit. Heat is the main factor in this respect, and by gradually raising the temperature of the water in the sterilizer till it reaches 150° Far., and keeping it at that for not less than half-an-hour, will kill any bacteria in the bottles, drive out the air, and when the bottles are cold they become hermetically sealed, and the fruit will keep for any length of time. The appliances consist of an oil stove, sterilizer, a few bottles, and a dairy thermometer. A large pot may be used in place of a sterilizer, and it should be deep enough to cover the bottles to the neck, and they must then be placed under and between the bottles to keep them from breaking. Much time and trouble will be saved if a sterilizer be used, as it has a stand for the bottles which fits inside the sterilizer. Any class of bottle on the market that is sold for this purpose will be found suitable, as each in turn is equal to the preservation of the fruit therein. The same bottles may be used each season, only renewing the rubber rings, which cannot be well used again, as the continuous pressure when in use expands the rubber. In bottling small green gooseberries and currants, the stalks only need be removed, leaving on the calyces saves much time, and does not spoil the appearance of the fruit.

In bottling green gooseberries, the fruit should be graded, and if any insecticides have been used the berries should be washed, and allowed to dry before bottling. The bottles must first be washed in hot water, and allowed to dry; the rubber rings placed in warm water, to which a little washing-soda has been added; then into cold water till required. The fruit may be gathered any time during the day when the weather is fine, selecting fruits that are on the unripe side. Ripe fruit can be bottled with success if handled with care, and less sugar will be required when the contents of the bottles are used. The strawberry is the only difficult fruit to bottle; the berries, being lighter than water, float after sterilization, and it must be a fine art to bottle this fruit with any great success. The fruit should be packed into the bottles to within half-an-inch of the top. Use a glass rod or piece of stick to pack the fruit firmly, but be careful not to damage the fruit. When the bottles are filled, cover the contents with cold water, place the rubber rings into position, put on the stoppers; if the screw cap be used, it should be made as tight as possible;

the spring clip will require no further adjusting after being put on. Place the bottles into the sterilizer, and cover up to the neck with cold water. The sterilizer should then be placed over an oil stove or slow fire till the temperature of the water rises gradually, not more than two degrees per minute, until it reaches 150° Far. The sterilizer should then be removed from the fire, and allowed to stand at this temperature for not less than half-an-hour. The bottles should then be removed from the sterilizer, and if screw caps be used they should be made tight. When the bottles are cold, rub the caps over with an oily cloth, to keep them from rusting, and store in any convenient place. Tomatoes are always in demand as a vegetable. This fruit must be sterilized twice, and the temperature should rise to 190°, allowing not less than a day between the times of heating. Wipe the fruit with a cloth, and remove the stalks before bottling. Sometimes the screw-caps are hard to remove when the bottles have been stored for any length of time; to prevent this, unscrew the cap slightly before storing. The screw-caps and spring-clips only act as a holdfast when the bottles are cooling, and as a protector to the stoppers while in storage.

## Haricot Beans.

In the past too little attention was paid to the food value of vegetables. In the days when meat was cheap and plentiful vegetables occupied a secondary place in the dietary of most families; now, however, when the joint is a thing of the past, we are groping for substitutes, and happily they are to hand. The Potato is enjoying a boom such as it never had before, and its value for producing a bulk of food material is high, but in actual food value it is inferior to some other vegetables, notably Haricot Beans. In Continental countries they have long known and appreciated vegetables as food, and have made an art of cooking them. We, too, must learn this art, and should grasp the fact that Haricot Beans are even more nourishing than meat. Their culture is comparatively simple. Deeply-dug soil and an open position are necessary. The deep cultivation of the soil is of the greatest importance, for on no account must the plants suffer from drought if a good harvest of Beans is to result. Manure will be necessary in poor, dry soils, and a moderate dressing will be beneficial on soils of good quality. The seeds should not be sown before the first week in May, except in the south or in localities known to be immune from

May frosts. This late date of sowing brings the young plants very soon into the hot months, hence the necessity for deep cultivation and manuring to prevent the soil becoming dry, and the consequent reduction of the crop.

The rows should not be less than 18 inches apart, and the Beans should be 6 inches apart in the rows, and not more than 3 inches deep. Some prefer to sow a double row of Beans in the drill 6 inches apart, in which case the drills should be 2 feet apart. The after-cultivation consists of constant surface hoeing all summer to maintain a loose surface and conserve moisture. It should be borne in mind that the object in growing Haricots is to reap a good harvest of Beans, not to use the pods, as with Kidney Beans. In September the plants must be pulled up, pods and all, tied in handy bunches, and hung up in an airy place to dry, subsequently extracting the beans from the pods for use in winter. A well-known variety on the Continent is the Dutch Brown, but seedsmen advertising in IRISH GARDENING are able to supply white and green varieties and Climbing Haricots, which are equally valuable. Allotment holders should not fail to make an effort to grow a breadth of Haricots. They might be sown on the plot from which autumn planted Cabbages will have been removed by the end of April.

## Flowers of March.

Up to the middle of the month the weather has been dry; at first without much sun, but during the second week quite a pleasant warmth developed during the middle of the day. Many plants came into flower and this, combined with the brighter weather, had quite a livening influence, very much wanted in these serious times.

*Azara Gilliesii*, a rather uncommon plant, with shining, ovate toothed leaves, was noticeable on a shady wall, where it produced many short racemes of bright yellow flowers. This is worth noting as a good plant for a shady wall. Forsythias have been magnificent and fully maintain their position as charming early flowering shrubs. The old and well-known *F. suspensa*, with slender, flexible shoots thickly furnished with clear yellow flowers, is delightful on a wall or in the open.

*F. intermedia*, of stiffer habit, is equally free flowering and makes a highly attractive bush; it is eclipsed, however, by two newer varieties, viz. —*F. intermedia spectabilis*, a remarkably free form with flowers of a rich deep yellow; it is a most striking plant, well meriting the varietal name *spectabilis*. *F. intermedia densiflora* is of similar habit, free flowering, as the name implies, but the blossoms are pale yellow yet beautiful.

*F. suspensa Fortunei atrocaulis* should be in every garden where shrubs find favour. It is one of Mr. Wilson's introduction from China and is not the least precious of his many finds. The shoots

of a year old are dark purplish brown in colour, and when carrying a large number of bright yellow flowers remarkable for their individual size the bush presents a picture not easily surpassed. The Forsythias are extremely valuable for planting among evergreens, and brighten up odd corners while yet there is a touch of winter in the air.

*Prunus triloba* fl. pl., a double-flowered Apricot, is almost full open as I write and presents a most pleasing sight flowering near the Forsythias. The flowers are soft pink borne all along the last season's growths. It is not always so free in a shrubbery, but succeeds admirably as a wall plant in a sunny position, where it should be hard cut back every year after flowering.

*Prunus tomentosa*, weather permitting, will be in fine form at Easter; a dwarf, densely twiggy shrub, bearing innumerable small white flowers, it is extremely ornamental and quite hardy. The flowers, however, are rather easily destroyed by heavy rains or rough winds, and it is advisable on that account to plant in a somewhat sheltered position.

*Prunus subhirtella autumnalis* (*P. Miqueliana*) referred to in a previous note, is now covered with flowers, making a most delightful show. This is a remarkable plant considering that it has been flowering intermittently since December and gives promise of continuing till April.

*Prunus subhirtella*, the type plant, is in bud and will be open ere these notes are in print. The buds are red but open rose coloured, fading to nearly white.

*Pieris floribunda*, often called Andromeda, is a member of the Heath family, and is now covered with abundance of its short racemes of white flowers. It is an attractive plant but not so handsome as *Pieris formosa* or *P. japonica*, which have pendulous racemes but which do not flourish here, being much less hardy.

*Rhododendron præcox* has escaped injury by frost so far as the middle of the month anyway, and is well furnished with its rosy purple flowers. It is partly evergreen, never wholly without leaves but losing some during winter. It is a beautiful early-flowering shrub, though sometimes the flowers are destroyed by frost; a hybrid between the tender ciliatum and hardy dauricum. Of very different habit is *Rhododendron intricatum*, a beautiful alpine, now covered with innumerable small lilac-purple flowers. It is evergreen, bearing tiny leaves and grows slowly, bushes of a foot or so high forming a delightful feature of the rock garden. *Rhododendron flavidum* is unique in its bright yellow flowers, and is equally suitable for the rock garden, where its dwarf stature and slow growth are in keeping with the surroundings.

Of early-flowering plants other than shrubs nothing could have been finer than groups of Tulip *Kauffmanniana*, often called the Water Lily Tulip from the resemblance of the fully open flowers to a Water Lily. What may be called the common form is generally bright yellow with a faint reddish flush on the outside of the segments. In the variety called Gaiety the red flush becomes more distinct, forming a band of red on the outside of the segments. The variety *coccinea* is, however, the most beautiful, being of a uniform gorgeous orange red—a brilliant sight on a sunny day.

*Narcissus bulbocodium*, the hoop Petticoat Daffodil, is a delightful little plant which seems

to love gritty soil and is establishing itself in a granite moraine where, slightly sheltered by the branches of a small pine, it is very attractive. Near by *Anemone blanda scythica* is flowering beautifully "cheek by jowl" with the pretty little *Anemone intermedia*, said to be a native of Silesia, and which bears abundance of bright yellow flowers. The Pasque flower *A. Pulsatilla* has already flowered in sunny positions while other groups in shadier places are still in bud. *A. amœna*, a lovely form obtained from a Continental source before the war, is nothing more than a good *Pulsatilla*, the flowers being larger and the colour better.

Many *Primulas* are now coming into flower, notably *P. marginata*, *P. pubescens alba* and *P. ciliata superba*, which are already making a brave show on the rockery.

In the alpine house, a small unheated structure into which many things are moved from frames, the most noticeable plants in flower are *Shortia uniflora grandiflora*, with beautiful large, shell-pink fringed flowers; *Primula "Marven"*, a hybrid between *P. marginata* and *P. venusta*, and which bears trusses of blue flowers with a "mealy" eye.

The true *Saxifraga Cherrytrees*, a *S. Boydii* with round, pale yellow flowers, paler than *Faldonside* and not easy to grow. Possibly it can only be obtained from Messrs. Cunningham and Fraser, Edinburgh. Many other *Saxifragas* have flowered on the rockery and in frames together with *Scillas*, *Muscari* and *Erythroniums*. The latter, it may be remarked, do beautifully in short grass and form lovely colonies at this early season.

J. W. B.

## The Fruit Industry.

For years the Department of Agriculture has been fostering the extension of hardy fruit culture in Ireland, and a great deal of money has been spent in establishing orchards for farmers, in supplying fruit trees at very reasonable prices and in providing efficient instructors. The best possible advice has been given as to the selection of varieties suitable for different districts, and no trouble has been spared to make Ireland, as it should be, a great fruit producing country. A good deal of success has attended these efforts but we are still a long way from having made the most of our opportunities. Only recently the daily press has drawn attention to an exhibit of Apples in Dublin, demonstrating clearly the advantages of spraying. Unsprayed trees produce ultimately undeveloped, blotchy, diseased fruit while sprayed trees produce clean, marketable, fully developed specimens. It is disappointing to know that of all the home grown Apples recently offered in the Dublin market few, if any, were of first rate quality. This is not as it should be considering the amount of public money that has been expended on disseminating correct methods of cultivation both by leaflets and by providing competent instructors. Every county has at least one horticultural instructor; some have two. These men are fully trained and their services are at the disposal of growers.

It is a remarkable fact that the spraying of Potatoes has caught on even among allotment holders, and is a recognised item of cultivation among farmers, yet the fruit farmer seems still unable to grasp the paramount importance of spraying. Will it have to be made compulsory? Either fruit growing pays or it does not. If it

does then surely the very best methods of cultivation should be carried on. If it does not, then it is high time that there was some authoritative pronouncement on the subject. Plant Apple trees has been common advice of late years, but what is the good of it if nothing better is to be had than the wretched produce recently on the market!

Here it seems is a great opportunity for the Royal Horticultural Society of Ireland to give the nation a lead and at the same time encourage the Department to continue the important work of making Ireland a great fruit country. If the Society were to institute an inquiry throughout the whole country with a view of finding out exactly why so much inferior fruit still holds the market it would do much to clear up the doubts regarding the profitable nature of fruit growing. The Department of Agriculture is now very properly engrossed in food production and has perhaps scant time to devote to the fruit question, but the Horticultural Society concerned chiefly with fruit, flowers and vegetables should be able to publish much interesting information, and would undoubtedly increase its prestige among growers large and small. It should be possible for the Society to find out why spraying is not done, and it should be also possible for it to make a definite pronouncement whether fruit growing is worth while or not.

## Subjects for the Rock Garden.

By H. S. WILLIS.

THREE very lovely and rather uncommon plants have made the rock garden very interesting during the past month, and at date of writing (March 12th) are still in undiminished beauty. Perhaps this season has suited them particularly well, and that others have the same pleasant tale to tell.

*Shortia galacifolia* I have had for five years. It has always been quite satisfactory, but has increased very slowly, and I have never succeeded in propagating it. It has flowered more or less each season, and last spring there was quite a fine promise but an unexpected frost spoiled it badly one night, and none of the buds opened. This season it has surpassed itself. It is covered with bloom since mid-February, the colour, a creamy blush, while tending to become more pink as the flowers wear, they are carried on bright red stems perfectly erect; in this it has an advantage over *S. uniflora*, as one can see the interior of the flowers and better appreciate the fine frill of the petals. I had tried twice unsuccessfully to grow *Shortia uniflora* and had finally decided that it was not worth further trouble. I was given a very fine plant of the newer *Shortia uniflora grandiflora*. I gave it a position similar to that which *S. gal.* occupied—sheltered from mid-day sun and in a moist pocket well filled with peat and leaf soil; from the very start it thrived delightfully, and even put out a good strong runner. It made its flowering buds so early in the year that I fancied it would be in bloom before *S. gal.*, but it was a full fortnight later. It is one of the most exquisite plants I have seen, the flowers are so large, so beautifully frilled, and the colour so delicate; the shade is soft shell pink, the buds very decided pink but without the brilliant colouring of bract and stem that *S. gal.* shows. I am most anxious to see if either plant will ripen seed. I have never seen it offered in any seed catalogue. *Saxifraga ciliata* is my third "glory." It has



always been a very easy subject, but though it has borne its fine flowers ungrudgingly I had only realised this season its full beauty, since I gave it a little protection from the rain and damp that hitherto have damaged its flowers badly. The trusses are very large, and though the petals are white, the bunch of rose-coloured stamens is so conspicuous that the colour is really a pinkish white.

This plant came from the borders of Nepal and is perfectly hardy, its one drawback to my mind being the absence of foliage when in flower. During late summer and autumn the great leaves are magnificent, with every shade of red and crimson, and in sheltered positions they last on into

manures—when crops are well rooted; meeting the special requirements of each crop in the way of food materials, space and sunlight, and affording protection from cold by sowing at suitable seasons—as in case of Runner Beans, or by shelter breaks, treatment of our soils by liming, &c.

**FOES AND THEIR TREATMENT.**—The most troublesome pests of crops are often those which work underground or just at the ground level. Of these, one of the worst, on new allotments at any rate, is the "Wire Worm," so called. This pest, which is straw colour and varies in length and size according to its age from about half an inch to an inch long, and about one sixteenth to a tenth of an inch across, is the larvæ or grub stage of a



*RHODODENDRON CUNEATUM.*

(A new species discovered in China by Mr. Geo. Forrest. We hope to give a brief description of it in our next issue. Photo by Geo. Forrest).

winter, but by spring are quite gone and the new growth beginning is very little advanced by flowering time, this beauty of foliage is also one of the good points of both *Shortias*, and in their case it remains throughout the winter, and only gives place slowly to the new, after the flowers have faded.

## Friends and Foes of Allotment Holders' Crops.

IN previous notes the relationship of good cultural conditions to healthy and pest-free plants was pointed out. I would like to again emphasize the necessity of thorough cultivation, deep digging, hoeing or scuffling, use of water-holding matter in the soil, such as vegetable refuse; use of liquid

small brownish beetle, commonly called the click beetle.

The wire worm is omnivorous. It attacks many crops from time to time, but more particularly Potatoes, Carrots and Broad Beans. Various soil preparations are often recommended but I cannot say that I have yet come across a cheap and effective preparation which could be absolutely relied upon to rid the soil of this pest. The best method of dealing with it is to thoroughly cultivate the soil during the winter by means of ridging, and in the summer by hoeing, so as to expose the maximum amount of surface to the action of the weather and to the watchful eyes of the various useful birds.

When new ground is being brought under cultivation it will pay to give a good dressing of agricultural salt or gaslime immediately on top of the inverted sods, say about 8 ounces to the

square yard; this being given some time before the crops are planted, otherwise the crops may suffer more from the cure than the pest. Crude naphthalene is often recommended, but I have found it less effective than the salt or gaslime (which is not saying much). On one occasion when dealing with a very bad piece of grass land I put into the bottom of the trenches nuts of *quick lime* broken small, about the size of walnuts, over this the soils and some soil on the top. When forking over the ground some time later, to note results, remarkably few of the pests were discovered. Various trap devices may be tried. One of the best of these is to slice some Potatoes or other "roots" and put them into the ground at close intervals, some few weeks *before* planting the crops. By noting the spot where the slices have been inserted, and examining the pieces at intervals, many wire worms will be discovered, when they can be dealt with as desired. To facilitate the lifting out of the Potato, Carrot or Turnip slices make a more or less circular holder of fine mesh wire netting, put the slices within, attach a piece of wire, then bury with about nine inches of soil on top, leaving the wire where it will be easily seen. The free use of fertilisers such as Sulphate of Ammonia, Nitrate of Soda, Kainit and superphosphate, and even of soot and seaweed serves as a deterrent to this pest.

**LEATHER JACKET.**—Another troublesome pest on new land is the leather jacket. This pest is dull brown or earth colour, about an inch and a quarter long, cylindrical in shape, roughly a quarter of an inch in diameter, with peculiar head and tail ends so that it is not easy to say which is which at first sight. It should be treated as recommended for the wire worm, the best method again being that which facilitates the action of birds, such as the Starling, which annually devours thousands of them. Sods placed on the ground will often serve as traps. In very bad cases it will pay to fumigate the soil with carbon bisulphite at the rate of from half an ounce to an ounce per square yard. Using a patent injector so as to deposit the fluid at a depth of from six to nine inches.

**SLUGS AND SNAILS.**—These pests appear to select the choicest bits of Lettuce, seedling Cauliflowers, &c., that the garden holds. They can be trapped by placing a little bran under boards raised slightly above the ground level, or placing sun-scorched Cabbage leaves on the soil, or by using one of the patent traps now on the market. Birds again should be encouraged, especially thrushes. Where it is possible in early autumn (before the slugs hibernate for the winter), poultry should be admitted on to the plot; these will devour many of them, but in some cases the cure might be worse than the disease.

The best solution I have ever used for this pest in a small garden can be made up as follows:—Take a wineglass full of strong ammonia, .88 of the chemist's shop, put into a gallon of water, and water through a fine rose on to plants, soil, box edgings, &c., at night or *early* morning. The old fashioned method of taking dry powdered quick lime, and equal quantities of fresh soot, mixing together and strewing along box edgings, walls, &c., for two or three nights in succession, putting on two applications in one night, if possible, is still a good one. Acetylene refuse, salt and Nitrate of soda put on separately, or mixed, at about two ounces to the square yard—but not on top of the crops of course—will help to minimise the attacks of the pests. While gritty substances

such as powdered glass, as used for making glass paper, cinders, and specially objectionable substances, such as paraffin and sawdust, placed in a ring around special plants will prevent attack.

**MILLIPEDES.**—These occasionally prove troublesome to various crops. They can be distinguished from the generally useful centipedes by their dark brown colour, by the characteristic way in which they curl up when at rest, and by their having two pairs of legs on each apparent segment of the body instead of one, as in centipedes; they also have rounder bodies and shorter feelers than the centipedes. Partially hollowed Beet Roots, Potatoes and Parsnips, &c., will serve as traps. In extremely bad cases fumigating with carbon bisulphite as recommended for leather jackets will be the best method, but as a general rule this pest is not particularly troublesome on garden plots.

**MAGGOTS.**—Various crops are attacked by maggots of different kinds, which attack either stems, roots, leaves, flowers or fruits, as the case may be. Typical among such crops we have the Onion, and in many districts this crop is seldom obtained from spring sowings, if made outside. The fly which deposits the eggs from which the maggots develop, usually does her work during the warm days of early summer, when the Onions are nearly ready for thinning, after which the Onions begin to turn yellow and often die away altogether, while within them will be found whitish maggots. To prevent attacks such as this the plants should be sprayed when about one, two and three inches high with paraffin emulsion or other smelly fluid, so as to give the crops and soil a flavour quite distinct from that of Onions, when the flies will go elsewhere to deposit their eggs. A quart of paraffin or turpentine mixed with a barrow load of soil or sawdust, and sprinkled between the rows of plants, will also act as a deterrent, and other fluids such as carbolic may be used. It is a good plan also to incorporate in the seed drill a compost made up of one part wood ashes, one part soot loam, one part poultry or pigeon manure, putting the lot through a quarter of an inch sieve, and adding half a pint of paraffin for every barrow load of soil. Frequent applications of soot, and slight earthing up with soot or soil also act as preventives. When thinning is being done the soil should be pressed against the remaining plants, and watered if at all dry. Autumn and spring sown plants under glass are not usually attacked to the same extent as are those of the spring sowing out of doors.

**CARROT FLY.**—Beet Fly, Cabbage Fly, &c., can be kept at bay by using similar methods. During various seasons I have tried sowing Radishes alongside the Carrots, at about three inches from the row, with satisfactory results. Perhaps the principal reason for failure of the Carrot crop lies in the poorness of the soil in which it is often grown. If there is a good layer of rich feeding material at about twelve inches deep in the soil, and a compost as suggested for Onions, placed in the drills, less will be heard of the pest. Where Cabbage or Cauliflower fly is prevalent the young plants, in addition to being syringed in the seed bed, should be puddled in a mixture of mud and carbolic (a teaspoonful of Jeyes Fluid to a pailful of thick mud) before planting. In all the foregoing examples due to fly, the remains of plants should be burned or very deeply trenched and the soil ridged in early winter.

**CELERY OR PARSNIP FLY** is also troublesome at

times. This pest deposits its eggs in the leaves and from the eggs whitish grubs or maggots arise, which tunnel their way through the leaves. They

as also are reported dustings of soot. Affected leaves should be turned or else squeezed between the finger and thumb to kill the maggots. A look



POPULUS SEROTINA (THE BLACK ITALIAN POPLAR) AT BELTON.

(By the courtesy of the *Gardeners' Chronicle*).

are often called leaf miners because of the tracks or tunnels they leave, which may be easily seen within the leaves. Frequent spraying with paraffin emulsion is again to be recommended.

out should be kept in transplanting boxes and elsewhere for the yellow cases—just less than a quarter of an inch long, which are the chrysalides from which the adult insects will emerge.

**APHIDES OR PLANT LICE.**—These attack various garden crops, but more particularly Broad Beans. Where it is practicable to syringe them with insecticides such as paraffin emulsion, nicotine, spray mixtures, &c., they are easily dealt with, but they increase in numbers so rapidly that a constant look out must be kept for them, otherwise the crops become badly affected before the pest is even suspected. If on Broad Beans they are particularly difficult to deal with as they get in between the folds of opening leaves, where no insecticide can get at them. In the case of Beans which are sown early the growing points or tops in which the insects breed can be cut off after about four or more bunches of flowers are formed. For the later crops, dusting with lime, hellebore powder or crude snuff at intervals of a few days, by means of a hand bellows, or syringing with a warm solution (just hot enough to bear the hands in) made from two ounces of shag tobacco steeped in a gallon of water, or the same quantity of carbolic soap, applied at intervals of three days until the pest has vanished will prove fairly satisfactory. The natural enemies of the aphides, such as the Lady Birds and their larvæ, and Hover fly larvæ, should be recognised and encouraged, when the pests will be better kept within bounds.

**CATERPILLARS.**—The principal caterpillars which affect the crops grown by plot holders are the Cabbage Moth and Cabbage Butterfly caterpillars, and occasionally the caterpillars of the diamond backed moth. Where practicable, hand picking of the caterpillars found on the under and upper sides of Cabbage leaves, in the centre of the plants, and on the ground below them, is fairly satisfactory, keeping a watch for the oval eggs, about a sixth of an inch in length, often to be seen on the leaves and also for the chrysalides, to be found on walls, tree stems, &c., in the case of the butterfly, and in the soil (reddish cases about three quarters of an inch long) in the case of the Cabbage moth. Spraying the plants with the ammonia solution recommended for slugs, tobacco solution or some proprietary mixture, will keep these pests under control. Also encouraging their natural enemies—the ichneumon's, &c., referred to in a previous note.

**TURNIP FLY OR FLEA BEETLE.**—In dry seasons, more especially, this pest may destroy the whole Turnip crop. The beetle which does the damage to the affected plants, more particularly if a piece can be distinguished by careful observation close of paper is laid on the ground close to the plant and then the plants brushed over by the hand, after which the little beetles, with the two yellow lines, distinctly showing up, or their wing cases will be easily seen. The old methods of dealing with this pest were mainly in the form of sticky substances, such as tar, cart grease, &c., which were stuck on to swinging boards drawn quite close to the plants, so that when the beetles jumped from the plants numbers were caught on the prepared boards. An improved form of this trap is known as the Wisley Turnip Fly Trap. Further methods of dealing with the pest are (a) keeping the plants syringed with paraffin emulsion or arsenate of lead paste solution (this latter is very poisonous) and (b) sowing an artificial fertiliser, such as superphosphate, with the Turnip seeds, so that the Turnips are forced into the rough leaf stage very quickly, when they are less liable to attack.

**CABBAGE AND TURNIP GALL WEEVILS.**—These are the pests which are responsible for the globular excrescences on Cabbages, Turnips, &c. Inside

the galls will be found the grubs, which later on will develop into the Weevils or long-snouted, beetle-like creatures. Paraffin emulsion and other smelly mixtures sprayed over the plants in the seed beds will keep the pests away, as in the case of Onion fly, &c. Where the nodules have developed on Cabbage plants they should be cut through and the grubs killed before replanting, and when replanting the plants should be inserted fairly deep so that new roots will arise from above the damaged part. *(To be concluded.)*

## Alpine and Rock Plants.

As a rule when we speak of the Alps we think chiefly of the Alps of Europe, but the lofty mountain ranges of America and Asia have contributed many gems to our gardens. The number of genera species and varieties is now very large and tends to increase, yet the small dimensions of very many makes it possible for the enthusiast to grow hundreds of them in quite a small space. One of the problems which often confronts the beginner with a small garden, and perhaps only a small sum available for the garden, is the provision of rocks; and this raises the question of whether rocks are really necessary. Undoubtedly they add much to the appearance of an alpine garden, especially if fairly large and well placed. On the other hand, a great deal of room is needed to accommodate large rocks, and in a small garden this is a grave consideration. There is no doubt whatever that any amount of our choicest rock plants, so called, may be grown without the help of any rocks at all. In my opinion the soil is the chief consideration. Given a well drained gritty compost for those that require it, and peat for those requiring moister conditions, there is hardly any limit to the number that may be grown successfully. Drainage is all important, and anything approaching stagnation must be strictly avoided, even for those requiring bog conditions. The amount of bottom drainage required will vary according to the site. If the position chosen is naturally sloping there will, of course, be less need for artificial drainage, in fact it may be overdone. If the site is flat, however, necessitating the raising of mounds either by the introduction of soil, or by excavating paths, then it may be necessary to drain. This can be done by arranging a layer of fairly large stones wherever a bulk of soil is to be placed and matters may be so arranged that superfluous moisture from the different heights will find its way into a peat bed, where a great many moisture-loving Primulas, Meconopses, Orchids, Pyrolas, and many others may find a happy home. If the sub-soil is very stiff and retentive it may be necessary to drain the peat bed also.

There is scope for any amount of ingenuity in the construction of a small alpine garden as well as a large one. The nature of the soil composing the mounds will also be governed by the natural soil of the garden. If it is fairly good it may not be necessary to do more than add sufficient sand and chips to provide free percolation. The time was when any kind of gritty soil was thought good enough for alpenes. That idea, however, has now been abandoned, and good loam thoroughly mixed with sand and grit is now considered more satisfactory for the majority. It is not necessary, perhaps, to have the whole bulk of soil made up of good loam and grit, but at least the top layer of the depth of a foot or so should be of this nature; but the whole bulk from top to bottom should be free

and well mixed with coarse chips. Given a properly prepared foundation, as it were, it is then possible to give special preparation to certain pockets in which are to be planted choice or rare species.

Here again, however, we come to another phase of alpine gardening. The mention of difficult species at once brings to mind the moraine. Of recent years the moraine has been much talked of, and undoubtedly many plants hitherto looked upon as almost hopeless have found a congenial home in its gritty depths. Many plants which detest surface moisture, that is, lying on or about their leaves, flourish better in the moraine than elsewhere, because the drainage is so sharp that surface moisture soon soaks away, leaving the plant dry above but with its roots in the cool depths below. One is often asked how deep a moraine should be; well in our climate I think two feet ample, the bottom nine inches being of fairly large stones and the remainder of loam and leaf soil, mixed with sharp chips in the proportion of one of the former to three of the latter. I refer, of course, to a moraine without any artificial water supply. Many who advocate laying on water would say that the proportion of chips should be increased, but I see no need for laying on water and I am sure that at the depth I have suggested there is little fear of the plants suffering from drought. The moraine should, if possible, be on a slope facing south or south-west, and it may be made of granite chips, limestone, or any other kind of rock available, the principle being to get sharp drainage and a deep root-run for such plants as require it. Some coarse chips may be scattered on the surface to finish off and conserve the moisture. It may be noted that many alpine which in nature grow in chinks and crannies of huge rocks, sending their roots far into the damp recesses, find a happy home in the moraine, where the conditions are very similar. For instance, some of the *Saponarias* flourish in the moraine better than anywhere else. Of these I may mention *Saponaria cæspitosa*, with umbels of rose-coloured flowers; *S. lutea*, yellow; *S. pulvinaris*, dwarf and tufted, with red flowers, and *Sundermannii* and *Weinmanniana*, with pinkish flowers. *Convolvulus incanus*, a creeper with silvery leaves and pink flowers, grows rampant in the moraine, and frequently sulks elsewhere. *C. nitidus*, an even daintier plant, is difficult except in moraine conditions, and some of the *Saxifragas* will flourish there when a sufficient number of chinks is not available elsewhere. *S. burseriana* and some of its forms make fine cushions, flower freely and assume that hard prickly appearance which denotes good health. The dwarf *Artemisia*s, such as *pedemontana*, *spicata*, *Baumgarteni*, and *mutellina*; also such *Campanulas* as *excelsa*, *Tommasiniana*, *macrorrhiza* and the true *Raineri*, a dainty little gem with large pale blue flowers, all delight in deep, gritty soil.

The more compact growing *Androsaces* are rare alpine and thrive in the moraine, and such species as *A. hedreantha*, *helvetica*, *pubescens* and *argentea* should be given a trial. *Raouli australis*, a low creeper with silvery leaves, makes a beautiful carpet and spreads freely. There is hardly any limit to the number and kind of plant that will flourish in the moraine, and any plant that has proved difficult elsewhere may, with every hope of success, be tried there. The most striking feature of moraine grown plants is the close, firm, compact growth they make, exactly like what we are told they do in their native habitats.

As a companion to the moraine the alpine bog is an essential feature of an up-to-date alpine garden. Many of our best plants require moister conditions than are obtainable in the ordinary soil of the rocky. The alpine bog may be imagined as a hollow high up on the mountains, and which has become filled with decayed vegetable matter forming a black humus. It is moist from the absorbent nature of the material, but is nevertheless always losing moisture through being high up and therefore naturally drained. The alpine bog is quite distinct from the bog garden, which is mainly intended for the larger growing herbaceous plants, which require more than ordinary moist conditions. In the Alpine bog we may grow such delightful alpine as *Primula farinosa*, *P. frondosa*, *scotica*, *involucrata*, *cockburniana*, *Bulleyana*, *Veitchii*, *saxatilis*, *cortusoides*, *nuscarioides* and *Littoniana* and many others which do not flourish well in the ordinary loam and chips mixture. Then we have the beautiful alpine *Ranunculuses*, such as *R. montanus*, with beautiful yellow flowers; *R. alpestris*, white, and *Kernerii*, pink. Here, too, *Orchises* and *Soldanellas* flourish with the dwarfier growing *Meconopses* like *integrifolia*, *racemosa*, *aculeata*, *rudis* and others. *Soldanellas*, it may be urged, often grow freely but do not flower, and this is undoubtedly so, due, I believe, to the want of a complete rest in winter. In nature they are covered with snow and frost-bound for months, and are then completely at rest. With the melting of the snow in spring they immediately commence to flower, and it seems as if they should be covered with glass or slates in autumn and kept as dry as possible through the winter. This theory is confirmed by the fact that pot grown plants kept dry in a covered frame during winter invariably flower more freely than those planted out. The compost for an alpine bog may consist of fibry peat, leaf soil, loam and coarse sand in equal proportions. A total depth of eighteen inches should be ample, with a six inch layer of rough stones in the bottom. Thus briefly I have touched on two methods of catering for plants requiring special conditions, and in quoting a few plants in each case I have merely indicated the particular use of these methods. There are many other plants suitable for both, but it depends greatly on the climate and district which plants will require to be specially catered for. Certain plants may grow well in one district without special preparation and refuse to grow in another without a deal of trouble, and the grower must experiment until he finds out the treatment necessary in his own particular circumstances. Fortunately, however, there is an abundant supply of plants which will grow and flower freely under what may be called ordinary conditions, that is, in gritty, well drained soil. Some enjoy full sun and others shade, and some seem indifferent, and all these conditions can usually be provided in any Alpine garden, large or small. Let us see what plants there are suitable for a sunny bank. There are many of them, especially those with glaucous or silvery leaves. I will only mention a few. *Achillea Kellneri*, *A. clavennæ*, *A. serbica*, *Anthemis macedonica*, *Pyrethrum densum*. *Chrysanthemum argenteum*, all silvery-leaved plants with white or yellow flowers. *Alyssum spinosum*, spiny plant with white flowers; and there is a variety with rose-coloured flowers; *Antennaria dioica*, with several varieties, the leaves small, mostly grey, and with heads of white or pink flowers; *Lithospermum petraeum*, a grey-leaved Gromwell, with beautiful light-blue flowers;

*Antirrhinum asarinum*, a trailer with yellow flowers; *Marrubium velutinum*, a low grower, chiefly valuable for grey leaves, which have a yellowish hue; *Cerastium Biebersteinii* with practically white leaves and white flowers; *Convolvulus cantabrigius*, with narrow grey leaves and comparatively large pink flowers late in autumn. Then we have a host of Rock Roses, some green and others grey-leaved, and with pink, red, white, yellow and orange coloured flowers; and practically all the Thymes, a host in themselves, will flourish on a sunny bank and make a fine show with their green, grey and golden leaves, and pink, red and white flowers. Many of the Saxifragas delight in sun and gritty soil. Take *Saxifraga aizoon* as an example; in all its multitudinous forms the leaves alone are attractive, but in some the flowers are poor. Many collected forms, however, have handsome flowers, and a few have originated in gardens. Some of the best are *Sax. aizoon* Rex, with tall reddish stems and solid white flowers; *Sax. aiz. atropurpurea*, with heads of dark red flowers, and the yellow-flowered *Sax. aiz. lutea*. The variety *balcana* has white flowers heavily spotted with pink. Other so-called encrusted species are *Sax. cochlearis*, with beautiful arching sprays of white flowers; *Sax. Engleri*, with red stems and white flowers; *Sax. Kolenatiana*, white; *Sax. lingulata*, with long, narrow, silvery leaves, and sprays of white flowers spotted with rose; its variety *lantoseana* is very handsome; and another form called *superba* has particularly large and handsome panicles of white flowers.

In mentioning the *Helianthemums*, or Rock Roses, I should have said that the numerous named garden varieties, though perhaps the most showy from a purely decorative point of view, are by no means the choicest or most interesting. The dwarf, low-growing wild species have a charm which the others lack, despite their gaudy colours. The little grey-leaved, yellow-flowered *H. lunulatum* is a gem on a sunny bank, as also are *H. alpestre*, with hairy leaves and yellow flowers, and *H. canum*, also yellow, with silky hairs on the leaves.

So much for a sunny bank. We could easily extend the list, but will turn now to plants for the shady side. Generally on this side there will be more moisture, and some plants retain the colour of their flowers better in shade. The mossy *Saxifragas* at once occur to us as suitable. Among them is a host of named varieties, many of them of great beauty when in flower, but we must be careful not to overdo the planting of red "mossies," as we call them. A few of them are decidedly coarse and have departed so much from the wild types that it is difficult to say from what they have sprung. One of the latest, and I think the best, is *Sax. sanguinea superba*, which has retained the compact habit of a wild plant together with the short-stemmed flowers of an alpine. The colour is deep crimson, and it does not fade for a considerable time. Some of the earlier hybrids of a few years ago, such as *Clibranii Bathoniensis*, *hybrida grandiflora* and so on, are very similar to each other, and all are showy when just open, but the colour soon fades, even in shade. Coupled with this the main flower stems are long and easily laid down by wind or rain. These coarser varieties should be planted only sparingly in the rock garden but they make fine groups in the herbaceous borders, and are useful in spring bedding arrangements, where they can be employed successfully in conjunction with bulbs and many

other plants. *Aubrietias*, too, though not averse to sun, providing they have sufficient moisture, grow well on the shady side and keep their colour for weeks. Varieties such as *Peter Barr*, *Dr. Mules*, *Bridesmaid*, *Mørheimii* and *Hendersonii* are all most effective, giving a fine range of colours, and are apparently indifferent as to aspect. A number of the *Anemones* are useful in shady situations, notably *Anemone Hepatica* and its varieties. These enjoy a stiff moist soil and should be disturbed as little as possible. Then the Wood *Anemone* gives a fine range of forms suitable for shady places where the soil is cool and moist yet free enough for the rhizomes to ramify. Various shades can be found growing wild, and often in quite exposed places in Co. Wicklow, for instance, but generally the roots are cool and shaded by the grass or other herbage among which they are found. Some of the best cultivated forms are *A. nemorosa Allenii*, *Robinsoniana*, *Blue Bonnet* and a red variety called *Trehane*. The yellow-flowered *A. ranunculoides* and the white *A. sylvestris* are also useful. Quite a number of European *Primulas* rejoice in well drained, loamy soil, not fully exposed to the sun, notably *Primula pubescens* and its white variety, *P. hirsuta*, *P. spectabilis* and *P. viscosa*, mostly with rose or red flowers. Some of the hardy *Cyclamens* are beautiful in spring and autumn and do well in the shade of dwarf shrubs, and on the shady side of stones or rocks. *Pulmonaria rubra*, *Omphalodes verna*, *Sax. Geum* and *Sax. umbrosa* are also shade bearers, as also are *Tiarella cordifolia* and *Viola cornuta*.

In connection with shade loving plants we cannot omit the *Ramondias* and *Haberleas*. They will flourish in situations facing due north, but though making fine rosettes in such situations are often found to flower more freely when given a little more sun. In practice we find it beneficial to mix a little peat with the soil when planting *Haberleas* and *Ramondias*, and to plant between stones so as to keep the leaves away from contact with the damp soil. *Ramondias* grow freely and flower well wedged in between stones by the side of the paths through the rock garden, and also in the chinks of stone steps. In the Balkans where *Haberlea rhodopensis* grows, great masses are found spreading out over bare rocks fully exposed to the sun; the plants become quite shrivelled up in summer, but with the advent of torrential autumn rains they again fill out and flower freely in early summer. In cultivation, however, we find almost due north the best aspect, and at Glasnevin we have a large number, collected in the Balkans by the late Mr. C. F. Ball, and we have annually what I believe to be the finest display of *Haberleas* to be seen in cultivation anywhere. Collected plants vary a good deal in size of flower, the best of them having the petals broad and spreading. The finest of all, however, is *H. Ferdinandi Coburgi*, which has broad handsome leaves and fine flowers. In considering plants for shady positions we have to bear in mind that it is moisture that induces many plants to seek shade, and that given an adequate supply of water many of them will grow quite well in sun. Hence, we find in one garden a plant may flourish in sun and in another require shade, the soil and atmosphere generally being the controlling factors.

Among the immense number of plants now grown on our rockeries there are many that seem happy almost anywhere given anything like fair conditions of soil.

There are many species of *Arabis*, *Alyssum*, *Campanula*, *Erodium*, *Geranium*, *Potentilla*, *Draba*, *Gypsophila*, *Veronica*, *Phlox*, *Polygonum*, *Geum*, *Heuchera*, *Hypericum* and so on, that grow quite well in full sun or partial shade, though in planting we would naturally avoid dense shade, which is not natural to many alpine, though found to suit some, as I have instanced.

#### PROPAGATION.

The propagation of alpine presents no unusual difficulties. The usual methods of seeds, cuttings and divisions meet practically all cases. Seeds should be used whenever there is a reasonable prospect of them coming true—that is in the case of species. Little or no heat is necessary at first; in fact the cooler they can be raised the better. The soil should be very sandy, finely crushed bricks or crock dust being an excellent addition. Many will germinate a few weeks after sowing; others may lie dormant for a year or even two. In the case of dormant seeds it is a good plan to stand them outside on a bed of ashes in autumn. Let them endure all the rigours of winter—rain, hail, frost and snow—and in early spring bring them into a warm house, and a surprising number will germinate.

Cuttings root well all summer under hand-lights on beds made up in a shady position; as they root they can be potted up for future use. The more vigorous may be planted out in beds, but generally pot plants are more easily managed. For many of the more choice and delicate kinds, such as the smaller *Androsaces*, *Kabschia*, *Saxifragas* like *Boydii*, *Pauline*, *Petrascii*, *Irvingii*, &c., pure sand is a good medium, but they must be removed from the sand as soon as rooted.

Root cuttings are useful in cases where seeds and shoot cuttings are not available. *Morisia hypogaea*, *Achusa myosotidiflora*, *Statice*, *Primulas* of sorts, and *Dodecatheons* are examples, but when all other methods fail it is a good plan to try root cuttings.

In conclusion I must mention something about shrubs on the rockery. In this connection, again, we must admit that all the shrubs employed are not really alpine; many of them are merely garden varieties, but because they are dwarf they give the effect of alpine shrubs. I am not in favour of planting too many shrubs on the rockery, especially those of a spreading nature, but undoubtedly a judicious selection suitably placed gives a furnished appearance and breaks the monotony of low mounds of other plants. A good many, too, are valuable flowering plants, such as *Cytisus Beanii*, *decumbens*, *Kewensis* and *Ardoini*, *Genista spatulata*, *sericea rumelica* and *depressa*, and the more spiny kinds, like *Genista horrida*, *hispanica* and *radiata*. The dwarf growing rock *Cistus*es are valuable for sunny places; *Cistus purpureus*, *florentinus* and *salvifolius* are examples. Then there is a large number of dwarf *Conifers*, which look well in winter, such as *Juniperus hibernica*, *Picea clauseniana*; dwarf forms of *Thuya*, *Tsuga*, *Pinus*, and so on. For half shady places in peaty soil dwarf *Rhododendrons* are suitable, such species as *flavidum* and *racemosum* do well; also *R. ferrugineum*, *intricatum* and *moupinense*, and in conjunction with them we may use many of the *Eriacs*, *Vacciniums*, *Empetrum*s, and *Oxycoecus*. Thus I think I have said enough to show that in alpine gardening alone there is enough of beauty and interest to satisfy us the whole year round.

J. W. B.

## The Common Sense of Allotments.

THE recent Local Government Board inquiry into an application by the Corporation of Dublin for the acquisition of certain lands for allotments, and the nature of the evidence given at the enquiry suggests that a short article dealing with the commonsense of allotments might be of interest to readers of IRISH GARDENING.

At the enquiry certain paddocks in the neighbourhood of the cattle market in Prussia Street were mentioned as possible ground for allotments. Counsel for the salesmasters suggested that the cattle trade of a great part of Ireland was in danger. Does counsel remember the saying of Burke that "when a Bishop says the Church is in danger he is to be understood to be talking broad and to mean that her emoluments are in danger"? Mr. Healy, it is true, pointed out to the Corporation that they derived annually handsome emoluments from the metropolitan markets, but while the salesmasters employed Mr. Healy the Corporation made the application for the land. If the possibilities involved in allotments were realised the salesmasters could very well afford space in the neighbourhood of Prussia Street for the allotments required without jeopardising either the meat supply of Dublin or that portion of the cattle trade of Ireland that passes out through the Port of Dublin.

The case of the Clontarf Golf Links was another case that came before the enquiry. Everyone will agree that a game of golf is a case of necessity for sedentary workers, but surely building ground or agricultural land is not the place for the game? It should be relegated to waste land and to some distance from the city. The necessary food of life too is more necessary than the necessary games of life.

That plots should be given only to those who can use a spade or a plough was suggested at the enquiry. Should only those who can shoot be allowed to serve in the army?

To insinuate that plots or promises of plots are used for electioneering purposes is premature rancour, too speedy perversity.

Let us turn, however, to the other side of the question, and let us see what defence can be made for allotments. To begin with they give the townsman healthy relaxation, like golf, and good physical exercise; they teach him the principles of life and growth, and correct the artificial and mechanical bias of city life. So far as Ireland is individually concerned allotments are calculated to produce a radical change for the better in the diet of the people. By making them acquainted with a variety of vegetables and such things as Rhubarb, Currants, Gooseberries and Raspberries and Loganberries the desire for excessive strong drink which is stimulated by the present defective food of the people will be cured. The cure will be a gradual process and will not entail any undue hardship upon any class of the community. Greengrocers ought to welcome a movement that will increase enormously the demand for vegetables, fruit, and possibly flowers. Nurserymen and market gardeners will find less difficulty in obtaining labourers who understand the elements of gardening, because the plots are likely to become the future play grounds of the children, and take them off the streets, and urban school managers will soon realise that school gardening, theoretical and practical, is not a subject only for the rural school alone. Taken in connection with the housing of the working classes allotments



should prevent the growth of slums by adding considerably to the value of house property.

Whether in building houses for the working classes an eighth of an acre should be allotted to each house, or whether the houses should be grouped together and gardens grouped separately in allotment fields, is a question for experts to decide. That a combination of the two will possibly prove the best arrangement in practice is possible. Since the Repeal of the Corn Laws the growth of allotments and the recent development of small holdings have helped to keep wholesome the life of the people in the industrial districts of Great Britain, and have enabled them to bear the strain of the past four years. The allotment areas of the urban districts of Ireland and their rural origins, the cottage gardens of our labourers, offer an inviting field for the development of agricultural organisation. The plottolders of Dublin and Belfast have already made a self-reliant beginning in this direction in the co-operative purchase of seeds and other raw material. The organised distribution and sale will doubtless follow. That the rural labourer will follow the example of the town plottolder is devoutly to be wished for. The extension of tillage is likely to convince the labourer that his plot is a garden rather than a miniature farm, that it is to be laboured with the spade rather than the plough. If our farmers are producing grass, corn, and Potatoes labourers will realise that their interest lies in keeping fowl and producing market garden crops in their plots, while purchasing Potatoes, oatmeal and flour from their farmer neighbours. One of the hindrances to the spread of co-operation amongst labourers is the diversity of varieties of all kinds of vegetables and fruit grown. Seedsmen and nurserymen could combat this difficulty and at the same time simplify their own work enormously by stocking only standard kinds. In such small gardens intensively cultivated and minutely observed experience teaches that new and improved varieties have their origin, and after a few generations have benefited by the teachings of rural science in the schools. The joys of the plant breeder will be added to the pleasures of improved cultivation. If rural science is adopted throughout the national schools of the whole country as enthusiastically as it has been taken up in the diocese of Kildare we can hope that in a few years labourers will be imitating the petite culture of northern France and Belgium, and a crop of asparagus and peas or bush fruits will be as common as to-day are the inevitable Cabbage and Potatoes. The increased consumption of fruit and vegetables should lead to a desire to preserve this wholesome food for use in winter and spring, and farmers and financiers could well be considering the growth of Beet and the manufacture of sugar and bottles. Who has not observed at this time of year the young shoots of plants disrupt by the sheer force of their natural growth, the hard pan of garden walks or even asphalt paving. Much imagination is not required to fancy that allotments in their natural growth, may likewise break up strong vested interests inimical to the welfare and progress of our towns and country places.

J. E. G.

### Allotment Observations.

By J. HURLEY, Superintendent, Corporation of Dublin Land Cultivation Committee.

THE progress made on allotments during the month of March has been very marked; this applies especially to the newly allotted areas.

Fields like Clontarf Park, which up to recently were nothing but huge masses of bricks and clinkers, are now cleared and a way made for the Potato bed. These piles of bricks, &c., have, to a large extent, been utilised in building roads at the Marino grounds which were allotted last year in one eighth of an acre plots.

The ridge system, or lazy bed, as it is sometimes called, is again very much in evidence this year. Though the professional gardener does not approve of this method it must not be forgotten that from it very good results were obtained last year. Where plots were allotted late in the year there is no alternative but to trust to the ridge for the Potato crop. The most economical ridge, if ridges are to be availed of, is one four feet wide, and a furrow eighteen inches wide. This will allow of three Potato sets being placed on the breadth of the ridge, and allow sufficient space between the edge of the ridge and the nearest set to avoid the sunning or turning green of portion of the crop should some of the soil fall away during dry weather. On wet land the ridges should not be wide, but rather an opportunity given for surface water to escape by providing more furrows. It is not advisable to put too much covering on Potatoes after planting; 4 or 5 inches is ample, especially for the main and late crops.

The idea of spreading manure (dung) on land and covering it to a depth of three or four inches with soil taken from furrows every four or five feet apart, as a preparation for an Onion bed, is not to be recommended. It should be borne in mind that seeds do not require to come in contact with manure in order to germinate; on the other hand it often proves fatal to the young seedling. The Onion plant sends its roots to a very low level in search of food, and should it meet manure too soon a crop of soft succulent stalks are produced instead of good firm bulbs.

Manure, if applied to the Parsnip ground, should also be kept out of reach of the young plants; in fact, ground which was manured liberally for the previous crop need not be again dressed but double dug before seed sowing.

Peas and Beans now appearing over ground should be protected by drawing a few inches of soil up round the plants on both sides of the line, and staked.

No undug ground should remain so, unduly, but be prepared at once for the month's seed sowing of winter Cauliflower (Broccoli), Beet, Carrots, Kale, Savoy Cabbage, Sprouts, Lettuce and a succession of Peas.

### Demonstration Allotments.

ST. STEPHEN'S GREEN PARK, DUBLIN.

LAST year by direction of the Commissioners of Public Works two small "demonstration" plots of one-sixteenth of an acre each were cultivated in St. Stephen's Green in order that those who had small areas of land available in gardens or otherwise might see how the best use could be made of them. The operations were watched with great interest during the season by large numbers of amateur cultivators who will probably be glad to see the following return of the produce of the two plots from March to December last:—33½ stone Potatoes; 41 dozen Cabbages; 12 dozen Cauliflowers; 12½ dozen Parsnips; 12 dozen Carrots; 4½ dozen Celery; 7½ dozen Beet; 5 dozen Borecole; 46 dozen Turnips; 9 dozen Leeks; 3½ stone Onions; 19 lbs. Brussels Sprouts; 5 dozen Lettuce; 96 lbs. Peas; 44 dozen Broad Beans; 15 dozen Kidney Beans, also Parsley and Thyme.



## The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### KITCHEN GARDEN.

**OWING** to the continuous wet weather experienced during the earlier part of March, little could be done on the ground except an occasional day's digging. We may now reasonably expect a spell of fine weather, and no time should be lost in getting arrears of work forward.

**POTATOES.**—Finish planting of main crop Potatoes as early in the month as possible. Fresh seed should be obtained every second year, if the same Potatoes are planted too often in the same ground they are much more liable to disease. Hoe between and draw the earth up to early varieties coming over ground. Potatoes in frames will require all the air that can be judiciously given them, removing the lights entirely on fine days, frosts at night which often occur at this season of the year must still be guarded against.

**ONIONS.**—The great scarcity and consequently the high prices of Onions we are now experiencing should induce everyone who can do so to grow more Onions this year. Seed which was sown in boxes will now be ready for planting out. A good deep rich soil is necessary to grow Onions successfully. The boxes containing the seedlings should be stood in the open fully exposed for a few days before planting, drills 12 inches apart and 4 to 6 inches from plant to plant will be sufficient for general crop.

**CARROTS.**—Sow the main crop of Carrots. Fork over the ground and make as fine as possible, at the same time work in a liberal supply of wood, ashes and soot, these will help to ward off the attacks of wire worm and carrot fly. St. Valery, an intermediate type of Carrot, is one of the best for main crop.

**PEAS.**—Continue to sow main crop varieties, draw the earth up to those over ground before staking them. If the weather is dry an occasional soaking of water will benefit them.

**BROAD BEANS.**—Make another sowing about the middle of the month.

**FRENCH BEANS.**—Those in pots should have one or two soakings of weak liquid manure weekly, place a few twigs around the edges of the pots to support them, syringe frequently to keep down red spider. About the end of the month make a sowing on a warm border out-door.

**BETROOT.**—Sow in drills 15 inches apart both the long and globe rooted sorts.

**CELERY.**—Sow early in the month in pans or boxes, for general crop sow thinly and prick off into frames as soon as the seedlings are large enough to handle. Celery should never suffer for want of water. Open trenches for early sown Celery, Lettuce or Radishes can be sown on the ridges, these will have matured and the crop cleared off before earthing time. Sow late Broccoli, Savoy and Borecole, also make another sowing of Cabbage, protect from birds by placing a

close mesh net over them raised on forked sticks about one foot above the beds. Make sowings of early Snowball Turnips, Lettuce and Radishes: the two latter should be sown little and often.

**ASPARAGUS** beds will greatly benefit by giving a dressing of salt. If new beds are being made have the ground well trenched and plenty of good manure worked in. Asparagus beds remain in good condition for a number of years, and will well repay all extra trouble taken to make the bed a lasting one; keep the bed free from weeds.

**SPINACH.**—In dry warm weather summer Spinach very quickly runs to seed; to avoid this as much as possible sow in a cool shady part of the garden.

**VEGETABLE MARROW.**—Sow in pans in warm greenhouse, afterwards pot off singly. About the second week in May they can be moved to a cold frame to be gradually hardened off.

Prepare material for making up hotbeds for Melons and Cucumbers, when the beds are made up put the frame on, and under each light put a bucket full of good loam; tilt up the lights an inch or two until the rank heat has gone off, then sow a couple of seeds on each hillock; if both seeds germinate one must be pulled out.

**GENERAL WORK.**—Keep the Dutch hoe going between growing crops the object being as much to keep a nice open surface (which is necessary to the well being of all plant life) as to destroy weeds. If sufficient pea stakes have not already been prepared any odd hour can be very profitably utilised preparing some more.

#### FRUIT GARDEN.

If the weather is dry water newly planted fruit trees. Prune apple trees that were planted last month. Grafting is not much practised now outside the nurseries, those who intend doing so must begin at once. Pears, Plums and Peaches will now be in flower and must be protected by hanging nets or other protecting material over them on frosty nights, drawing them up during the day time to allow free access to bees.

Clean Strawberry plots and give a mulch of strawy litter, a shower or two will soon wash this clean for berries to ripen on. Disbudding is an important matter and must be done gradually, first going over the tree and taking off all misplaced shoots, then leave for a few days before going over them a second time. I usually give a third or final thinning. The number of shoots or new growths to be left on a tree must be determined by the amount of space to be filled, always avoid overcrowding of Peach and Nectarine trees. If the greenfly is troublesome syringe with quassia or a weak solution of Gishurst's compound early in the afternoon of a fine day, the trees must not be syringed until after the fruit has set.

#### FLOWER GARDEN.

Plant out Sweet Peas that have been sown in pots, dust them over with lime and soot mixed, to ward off slugs; place some bushy twigs to them as a first support; they will also help to protect them from cold winds and late frosts. Sow hardy annuals when the ground is dry, tread over the ground and rake fine, scatter the seed thinly, and cover with a little finely sifted soil, prick out

into frames. Asters and other half-hardy annuals. Early flowering border Chrysanthemums can now be planted where they are intended to flower. Make new plantations of Violets. The ground for them should be enriched with some well rotted manure. Wallflowers and other spring bedding will now be coming into bloom, give the beds a scuffle over to freshen them up after the winter. Hyacinths must have neat stakes placed to them before they get top heavy and fall over. Give lawns a good rolling. The grass will now be growing fast, and must be kept mowed regularly.

## Midland and Northern Counties.

By E. RUTHERFORD, Late Gardener to C. W. DUNBAR BUTLER, Esq., D.L., Woburn, Donaghadee.

**ASPARAGUS.**—Clear the beds of weeds and stir the surface lightly. Light soils should receive a dressing of salt, but where the soil is heavy and cold wait until the soil is warmed before applying.

**BROAD BEANS.**—Make a final sowing in rich deeply cultivated ground to provide late supplies. These late plants are usually attacked by black aphids, therefore as soon as sufficient pods have formed pinch out the tops of the plants.

**CARROTS.**—The main crop of Carrots may now be sown. Select a deep soil that was well manured for a previous crop and well prepared by deep digging during the winter. A heavy dressing of wood ashes will help to protect them from the grub. Sow in drills 14 inches apart. Monument and St. Valery are very good sorts.

**CELERY.**—Make another sowing of Celery to obtain plants for a late supply. Germinate and grow the seedlings in cool conditions; when fit to handle the seedlings may be pricked out into a cool frame over which spread a couple of inches of rotten manure and fine soil. Damp over and shade from strong sunshine for a few days. Afterwards admit air, increasing the amount gradually until the lights are removed entirely.

**BEANS, KIDNEY.**—Make a sowing towards the end of the month if the ground is in good order on a warm sheltered border. Sow in drills 1½ feet apart and 2 inches deep placing the seeds 3 inches apart. As soon as the rough leaves appear thin out the plants to about 8 inches apart.

**BRASSICA.**—Broccoli, Savoys, Brussels Sprouts, Borecole seeds of the most approved sorts may now be sown. Make a good seed bed; sow in shallow drills 14 inches apart. To prevent confusion each sort should be correctly labelled.

**VEGETABLE MARROW.**—An early sowing may be made in pots in heat for planting in frames on a spent hotbed, plant on a mound of good loam, admit air on fine days, and gradually harden off and remove lights when all danger of frost is over.

**ONIONS.**—Transplant the Onions sown in heat as previously advised, the ground having been well manured and deeply dug during the winter. Fork the ground over and break all lumps. The ground should be trodden over to make firm.

Plant in rows 12 inches apart and 4 inches apart in the rows.

**PEAS.**—To be sown again for succession according to probable requirements. Earth up such Peas as are in want of it. It is important to stake them early and to stake them well. The size of the sticks being according to the height of the variety.

**POTATOES** for the main crop should be now got in. Give plenty of air to Potatoes in frames on fine days.

**CAULIFLOWERS.**—Continue to plant Cauliflowers out of frames. Showery weather being most favourable.

## THE FLOWER GARDEN.

**HARDY ANNUALS** may now be sown; fork the borders over lightly and break all lumps, the soil should be made fine by raking, scatter the seeds thinly, and cover lightly with finely sifted soil. A dusting with soot and lime will help to protect them from slugs. The seedlings should be thinned before the plants become crowded. The best Hardy Annuals are Larkspur, Lavatera, Clarkia, Candytuft, Mignonette, Godetia, Nigella, Coreopsis, Nasturtium, Poppies.

**BEDDING PLANTS.**—Continue to propagate and harden off those that are well rooted, so that they may be strong for growing and flowering through the summer. All soft-wooded plants take to their quarters better if they have a layer of decayed manure to rott in, and they also transplant better.

**SOWING AND PRICKING OUT OF HALF-HARDY ANNUALS.**—Half-hardy Annuals may still be sown in heat. Many of such as were sown last month may now be pricked out into frames and covered with lights.

## HARDY FRUIT TREES.

**GRAFTING FRUIT TREES.**—Healthy Apple Trees of inferior varieties make excellent stocks for re-grafting with more suitable sorts, trees that were headed down during winter should have a few more inches taken off whenever the sap is rising, to enable the grafts to be inserted in sound bark. There are several methods of grafting which can be done with success. Crown grafting is the best for trees of a large size. The scions having been partly buried in a moist border should be taken out of the soil and the graft made 6 inches long retaining three or four buds. Make an incision in the bark of the stock, cut the lower end of graft in a sloping direction, and insert the latter in the incision made in the stock. Bind the two together closely, but not too tightly, with matting, and smear over the part with grafting wax or clay. Watch the graft during dry weather for signs of cracking in the clay which must be closed by damping it and squeezing together by the hand.

**WHIP OR TONGUE GRAFTING** is adopted when grafting young stocks. Remove the top of stock at the joint, and make a slit in the bark in an upright direction. Cut the scion to fit in the slit already made with a slight shoulder to fit on the top of the stock. A tongue having been made in the stock and a similar one in the scion, fit them perfectly together. Tie the scion to the stock firmly. Cover with clay or wax.

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# Irish Gardening

## Contents

	PAGE		PAGE
Japanese Magnolias (Illustrated) . . .	65	Friends and Foes of Allotment Holders' Crops . . . . .	76
Pinus excelsa (Illustrated) . . . . .	66	Reviews—	
Winter and Early Spring in the Rock Garden . . . . .	67	The Irish Allotment Book . . . . .	77
Flowering Plants in the Early Spring	68	Estate Economics . . . . .	77
Flowers of April . . . . .	70	The Month's Work—	
Chinese Rhododendrons (Illustrated) . .	72	Southern and Western Counties	78
Prunus Dasycarpa (Illustrated) . . . .	72	Midland and Northern Counties	79
Food Production . . . . .	73	Notes . . . . .	80
Spring and Summer Spraying of Fruit Trees	75		



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# IRISH GARDENING

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## Japanese Magnolias.

By SIR JOHN ROSS OF BLADENSBURG.

THREE deciduous Magnolias, *M. Kobus*, *M. salicifolia*, and *M. stellata*, natives of Japan, deserve a short notice at the present moment, for, producing numerous pure white flowers in April before the leaves appear, they form beautiful objects in the early spring. The last-named was introduced about forty years ago, and seems to be better known and more usually planted than in the case with the other two species. Of easy culture, it grows rather slowly into a large bush, and is very floriferous, showing its bloom even when quite small; the petals are numerous, giving the appearance of a semi-double flower, which is some five inches in diameter. The best specimen I have seen is at Bitton Vicarage, near Bristol, planted by the late Canon Ellacombe, and it was, when I saw it some years ago, I should think more than 10 or 12 feet high, and quite as much through.

*M. salicifolia* was only brought to this country twelve or thirteen years ago, and has the habit of a small and slender tree, which is said to attain to the height of from 15 to 20 feet. It is a most desirable species, but as it is comparatively new to cultivation, we have not yet been able to appreciate its full value. I got some small plants direct from Yokohama in 1905, and one of them is now some 10 feet high. In the early stages of its growth it flowers rather sparingly, and as far as I have seen, not so luxuriantly as *M. stellata*; but year by year the bloom increases and looks remarkably well. The flowers, about five inches across, are divided into six petals, and owing to the very slender branchlets on which they appear, they stand out conspicu-

ously, like as if some huge butterflies of a peculiarly white colour were on the plant.

*M. Kobus*, though known by name for many years, does not seem to have been introduced before 1879. For some reason or other it has not attracted as much attention as it appears to me to deserve. It is possible that it does not grow so well in England as it does in Ireland, if one may judge from Mr. Bean's suggestion that at any rate when young, it is one of the least attractive of Magnolias ("Trees and Shrubs Hardy in the British Isles," II., p. 71). I hardly think that this remark does justice to this magnificent species, which in Japan becomes a great flowering tree of from 70 to 80 feet in height. The plant here, obtained in 1900, is now about 18 feet high, and from the way it has grown, I think it likely that it will eventually attain to a larger size. The flowers are very similar to those that adorn *M. salicifolia*, being of an intense white colour, and some five inches in diameter; they are divided into six petals (occasionally a seventh is to be seen), and the seeds are bright red. It is a valuable addition to the arboretum in flower, in leaf, and in fruit. Like *M. salicifolia* in its very early infancy it is slow to flower, but in a short time it produces its blooms most freely and plentifully, and is in fact quite as floriferous as *M. stellata*. If it becomes a large tree in this country, which I believe will be the case, it will be a sight seldom to be seen. Like the other two species, it is quite hardy, and should, I think, be better known at all events by those in Ireland who can plant flowering trees in their woods.



MAGNOLIA KOBUS AT ROSTREVOR HOUSE.

## *Pinus excelsa.*

By PROFESSOR A. HENRY, M.A., Royal College of Science, Dublin.

BEFORE giving an account of this species, which is one of the white pines, it seems advisable to draw attention to the general characters of the genus *Pinus*, of which there are no less than 70 species, spread over the northern hemisphere. Pines are distinguishable from all other conifers by their adult foliage, which consists of clusters of 2, 3, 4 or 5 needle-like leaves. Each cluster is surrounded at its base by a sheath; and just below its origin on the branch there is a scaly bract. The nature of these bracts, and the persistence or the speedy fall of the leaf-sheaths are important points in dividing the genus into sections. The two main classes of pines are the hard pines, with hard reddish wood, and the soft pines, with soft white wood. The branchlets of the former are roughened by the raised decurrent bases of the bracts; but in the soft pines the branchlets are smooth. The structure

of the cones and seeds is also very varied. The cones of spruce, larch, and silver fir ripen in one season; but those of pine take two years to ripen; and, as a result, there is on each of the scales of the cone a small dark-coloured area, called the umbo, which is the portion of the scale that grew during the first season, the rest of the scale being the growth of the second season. The seeds of some pines have long wings, so that they can fly in a current of air for a long distance. In other pines the wings of the seeds are short and ineffective, or absent altogether. In the latter case the seeds become large and edible, and are discriminated by rodents, crows, &c., who eat some and carelessly drop others which germinate at a distance from the parent tree.

From these preliminary observations it can be seen how the various sections of the genus *Pinus* differ from one another in the characters of the leaves, branchlets, buds, cones, seeds, &c. In this article we can only deal with one section, the white pines, which belong to the main division of soft pines with white wood and smooth branchlets. The white pines have clusters of five leaves, the sheaths of which quickly fall off. Their cones are elongated, on long stalks, and composed of numerous thin scales, each of which has a terminal umbo. The seeds have adherent long wings. The white pines comprise seven species, distinguishable as follows:—

### I.—BRANCHLETS WITHOUT HAIRS.

1. *Pinus excelsa*. Leaves 5 or 6 inches long, drooping or spreading. Himalayas.
2. *Pinus Peuke*. Leaves 4 inches long, erect, not spreading. Balkan Mountains.

### II.—BRANCHLETS MORE OR LESS HAIRY.

3. *Pinus Ayacahuite*. Branchlets with very short rusty pubescence. Leaves, 5 or 6 inches long, drooping or spreading, like those of *P. excelsa*. Mexico.
4. *Pinus Lambertiana*. Branchlets with short brown hairs. Leaves 4 inches long, twisted a complete turn, rigid, ending in a sharp point. California, Oregon.
5. *Pinus monticola*. Branchlets with short brown hairs. Leaves 4 inches long, twisted slightly in their upper half, blunt at the apex. Western North America.
6. *Pinus Strobus*. Branchlets with a minute tuft of hairs below the insertion of each leaf-cluster. Leaves 3 inches long, not twisted. Eastern North America.
7. *Pinus parviflora*. Branchlets with a scattered minute pubescence. Leaves 2 inches long, white on the inner surface. Japan, Formosa.



Most of the species are valuable forest trees in their native countries; but only *Pinus Strobus* has been planted for timber, and that very rarely, in the British Isles. It covers vast tracts in America, yielding a very useful wood, known in the import timber trade as yellow pine, a misnomer, as its correct name, invariably used in the United States, is white pine. It has lately been attacked in New England and the adjoining States by a destructive fungus, *Peridermium Strobi*, which was introduced by seedlings from a German nursery in 1906, and is now spreading to an alarming extent. This fungus occurs in this country, and renders very risky the cultivation of any of the white pines on a commercial scale. The Mexican and Western American species also yield excellent timber; but are only planted in Europe as ornamental trees.

*Pinus Peuke* forms woods of considerable extent in Bulgaria and Macedonia, but is scarcely an important source of timber. It grows well on sandy soil at Kew.

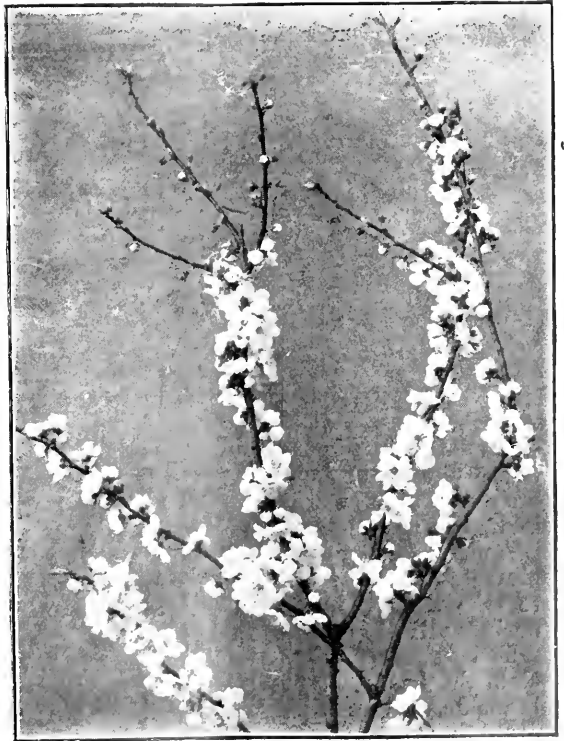
*Pinus parviflora*, often seen in botanic gardens, forms a very small spreading tree, which is usually covered with dark-coloured old cones, as it produces fruit in great abundance.

*Pinus excelsa* is known as the blue pine in India, where it is widely spread throughout the Himalayas at considerable elevations, yielding an excellent timber, used for planking, doors, windows, furniture, and tea boxes. It is also occasionally tapped for resin. As usually grown in this country, it forms when isolated a wide-spreading ornamental tree, with the branches curving upwards at their extremities. At Glasnevin, besides the young tree from which the branch shown in the illustration was taken, there are two old specimens. The largest examples occur in the south and east of England, where trees 90 feet in height have been measured. In Ireland, owing to the strong prevailing winds, this species like many others is checked in its upward growth, the tallest specimen that I have seen being a tree in a sheltered position at Courtown, which was 70 feet high and 9 feet in girth in 1916. It seems comparatively indifferent to soil, growing best in good deep loam, and is one of the pines that may be planted on limestone successfully. It is very rarely seen in plantations; but in a mixed wood of oak and beech at Ballyrairie, near Arklow, there were in 1917 four trees about 50 feet high, with clear stems and narrow crowns, which had grown as fast as Scots pines under the same forestry conditions.

## Winter and Early Spring in the Rock Garden.

ALTHOUGH the past winter was ushered in with severe weather, the frost, if keen, was of short duration, and was followed by cool and fairly dry conditions. On the whole the tender plants have suffered very little, but curiously enough *Lithospermum rosmarinifolium*, which came safely through the very severe winter of 1916-17, died off suddenly in March, after blooming lavishly during December, January and February. *Raoulia australis* is also dead, but it also failed to survive the previous winter in a different position, and either it does not like me, or I have not found out its secret. *Polemonium confertum mellitum*, after flourishing for seven years, has departed; possibly through old age, but happily, it is succeeded by vigorous offspring. I have sung its praises before, but it deserves all that can be said for it.

All the Saxifrages have come through the winter well, but the *Burseriana* group has not been quite so generous with blossom as last year, and some pieces of *Gloria* have rusted away.



PRUNUS DASYCARPA.

The earliest in the *Kabschia* family to bloom were *Eldoxiana*, *Haagii*, *Boryii* and *Iringii*—all these were slightly in advance of *apiculata* and *Elizabethæ*. *Iringii* is a most vigorous doer here, and flowers over a long period. *Boryii* is not so vigorous, but was early and its white blooms are borne on very short stems. *Borisii*, *Paulinæ* and *Faldonside* have done well, and are very beautiful. *Saxifraga oppositifolia* was a mass of blossom in March—it has been in its present position for six years, has grown into a large patch and shows no sign of going off. It gets liberal top dressings of sand and peat, which no doubt contribute to keeping it healthy and vigorous.

*Saxifraga Salomoni* is still a very shy bloomer here; it makes a brilliant mat but nothing more.

Of the *Englerias* I think *S. Stuartii* (a hybrid of *media*) is the most satisfactory for the rock garden—it has not got the fine rosette of *Grisebachii*, but it grows well, can be easily propagated, has come through the winter first rate, and is now full of flower spikes. The flowers are bell-shaped and in a nodding cluster. The sepals are orange-red, the flowers yellow, and a group of half-a-dozen plants is a very attractive object. *S. thessalica* has not flowered this spring; propagated plants seem to take two or three years to attain the flowering stage. *Petrocallis pyrenaica* had the protection of a piece of glass during the winter, and is just coming into flower. It is remarkable for the sudden manner in which it awakes towards the end of March and puts on a new robe of brilliant green.

*Oxalis enneaphylla* has already two or three early blossoms; along with its variety *rosea* and *adenophylla* it thrives and increases well here. Some self sown seedlings are appearing, and, strange to say, not below the ledge on which the plants are, but higher up the rock garden, and some distance away.

*Morisia hypogæa* is showing its bright yellow flowers on a cushion of dark green, and the rare *Astilbe simplicifolia* is just breaking through.

*Anemone blanda scythnica*, variety *rosea*, was a picture in February, and lasted a long time, the type, white with blue reverse, was later, but is still in flower.

*Androsace sarmentosa* and *chumbyi*, some protected from the winter rains, and others left to take their chance, are both growing vigorously and full of buds.

The tender *Veronica hulkeana* has come through the winter uninjured, and the long branching spikes filled with buds will soon be opening.

In a wind-swept garden the protection afforded by a stone is priceless to some plants, particularly to the more tender *Ethionemas* and smaller *Lithospermums*.—J. HARPER-SCAIFE.

## Flowering Plants in the Early Spring.

Two lists of January flowering plants have been recently given in *IRISH GARDENING*, and by some omission neither of them included *Eranthis hiemalis*, the Winter Aconite, a well-known small carpeting perennial with a fine leaf and with a dainty golden bloom, which is very effective at the beginning of the year. Nor was *Aponogeton distachyon*, the Cape Pond-weed, mentioned; this is a hardy aquatic with white fragrant flowers of a peculiar shape, emitting a scent like hawthorn. Nevertheless, from the lists already published, it will be seen that there is quite a quantity of plants available to brighten the garden even in the dead season of the year. But as the days lengthen into early spring, the volume of colour displayed by Nature increases at a rapid rate, and by the end of April there is such a wealth of bloom to be seen that it is difficult, within the limits of an article, to give any adequate description of the numerous plants which produce it. The mention of a few of them that are hardy, at all events in the milder districts of Ireland, may, however, be of interest, and in doing so we propose to confine ourselves, though not entirely, to those that are less generally known.

The flowering season of the magnificent genus *Rhododendron* extends from December to June, and during those months, whenever the weather permits, there is a constant and ever-varying succession of bloom to delight the eye. New species are being introduced with bewildering frequency, so that it is almost impossible to reckon up the full number that have been already brought to this country. Some of them have not yet produced their bloom in Europe, like *R. calophyton*, and it may be years before this remarkable tree-shrub, said to grow 50 feet high, will give us any real idea of its full value. Others have already flowered, and of these both *R. Ririei* and *R. sutchuenense* should be noted for their singular beauty. The former a rich purple with a dark blotch; the latter with a larger truss, a lighter rosy-purple also stained by a darker blotch. As they unfortunately open towards the end of February or beginning of March, the bloom is too often marred by frost. The flowers of *R. lutescens*, bright yellow, are also worthy of notice; as well as those of *R. racemosum*, small and numerous, of a pink colour. Allied apparently to this last species is another which sometimes goes by the name of *R. oleifolium*, white, somewhat larger, and very floriferous; it is not the true *R. oleifolium* of Franchet, but it is distinct and well worth growing, and eventually it is to be hoped that botanists will give us its correct name. Coming

from Japan, we may mention *R. Keiskei*, a small species with pale yellow thorns; *R. rhombicum*, a very free bloomer, dark red purple before the leaf appears; and *R. Metternichii*, with deep pink buds that take when fully expanded a light rose colour, the contrast between the buds and flower makes this a most desirable species. From Yunnan, *R. rubiginosum*\* is an upright bush covered with rosy lilac trusses. Among those of Himalayan origin, *R. eximium* and *R. Hookeri* deserve special mention. The flower of the former in its young stage is tinged with pink, but it soon loses that shade, and when fully open it takes a yellowish white colour with a dark eye, as if made of porcelain, and somewhat like *R. Falconeri* which it resembles also in leaf and of which it is sometimes called a variety. *R. eximium* has a peculiarity of its own; after flowering in April, it remains apparently dormant until July, when the young growth pushes, the leaves being covered with a bright yellow-brown tomentum, which they retain until December giving the plant quite a distinct and beautiful appearance all through the late summer and autumn, unlike any other *Rhododendron*. *R. Hookeri* is a deep and very brilliant red quite as good as *R. fulgens* only larger; the leaves of this species are remarkable, being studded along the principal veins on the underside with numerous little dark dots or glands. Nor should the well-known form of *R. arboreum* be forgotten which early in April shows numerous trusses of a fine red colour, and as the plant grows to some 30 feet in height the effect may be easily imagined. Of the diminutive species *R. intricatum*, lavender-coloured flowers, should be included here, if only because it is one of the few, not hybrids, that show a blue shade at this time of the year.

Of the *Clematis* two may be noted, both evergreen climbers and very free bloomers: *C. Armandi* from China, white flushed on the underside with pink, and *C. indivisa*, from New Zealand, pure white. Some early flowering *Magnolias* are already described in this issue of IRISH GARDENING, but allied to them there is *Drimys aromatica*, evergreen with aromatic leaves, bright red branchlets, and clusters of small yellow flowers; also *D. colorata*, a little known species with somewhat similar bloom (not however in clusters), but with highly coloured persistent foliage of a very strange and unusual appearance. A shrub rarely seen in cultivation, also evergreen, is *Trochodendron aralioides*, now beginning to display its curious yellow bloom. *Camellias* are perfectly hardy;

*C. reticulata* has large red flowers with golden tassels, while *C. magnoliæflora* (probably a variety of *C. japonica*) is white slightly suffused with pink. The genus *Berberis* has also some of its species now in bloom, of which the well-known *B. Darwinii* is one of the best evergreens, and covered with numberless clusters of deep bright orange-coloured blossoms; in favoured places it grows to the size of a small tree. *B. hakeoides*, with a lighter orange colour, also deserves a place in the garden. *Eothergilla* major is a plant re-introduced from the United States, and it is worth growing for the many peculiar pale yellow fragrant flowers it bears, which are formed in cylindrical spikes, and which are devoid of petals.

Belonging to the Violet Order is a shrub called *Melicytus ramiflorus* from New Zealand, the branchlets of which are literally covered with minute flowers each exactly like a diminutive Pansy; it is evergreen, and the foliage pale green. Unfortunately it is dioecious, and so unless we have the two plants of opposite sexes, no fruit is produced. Herein it differs from its kinsman, *Hymenanthera crassifolia*, which being monoecious, has a fine autumn crop of small white berries. *Melicytus lanceolatus*, also from New Zealand, does not seem to be hardy. *Pittosporum eugenioides* has long glossy evergreen leaves, wavy at the margins, and bears many clusters of yellow flowers; there is also a fine variegated form of the species which is an attractive plant at all times. One of the earliest of the genus *Viburnum* to bloom is *V. Carliesii*, with corymbs of pure white flowers deliciously scented, while the buds before they open are of a dull red colour. Of *Spireas*, should be noted *S. Thunbergii*, the first to show its white blossoms, soon followed by *S. arguta* which has its branchlets smothered with masses of the same colour, as if covered by snow. Some of the *Ribes* also claim attention, and among them may be singled out *R. Menziesii* and the newer *R. cruentum*, white and purple of different shades, and *R. speciosum* like a small red Fuchsia. *Osmanthus Delavayii* is a charming little shrub of recent introduction, with small glossy evergreen leaves, and covered with numerous pure white flowers. The by no means uncommon plant usually known as *Ceanothus rigidus* is apparently not exactly the same as that described under that name by Nuttall; it is well worth growing, having masses of blue purple bloom along the branchlets.

All the above are shrubs of varying sizes, and all show their blossoms in or before April. Of the smaller sorts we may note *Prunus Chamæcerasus* or the "ground cherry," a little known

\* See illustration, Vol. xii., p. 123.

trailing plant hardly rising to about six inches above the ground, now to be seen in good flower at Glasnevin. *Daphne blagayana*, another trailer, shows its white clusters of scented bloom in March. Forming carpets of colour we should mention *Lithospermum prostratum*, gentian blue, and lasting for many months; and *Polygala Chamæbuxus*, yellow, and its purple variety, as well as *P. Vayredæ*, probably the best of the genus, dark red and very striking.

It will be hardly necessary to include in this list any detail of the numerous spring bulbs that grow in our gardens and nestle near our trees and shrubs, adding beauty and colour to the scenery. Crocuses in the winter and in the early months of the year; Snowdrops and *Leucojum vernum* in February, followed by the blue *Chionodoxas*, *Scillas*, and Grape Hyacinths; with Dog-tooth Violets, white, red, purple, and pale yellow, some graceful Fritillaries and gorgeous Tulips, the beautiful little mauve and yellow *Romulea Chusii*, and then the Daffodils whose variety is endless. Besides, there are some of the *Cyclamen*, red; *Anemones* of many colours and sizes; *Sanguinaria canadensis*, the "Blood-root" of the Poppy order, white; the dainty *Shortia galacifolia*, the curious purple parasite *Lathraea Clandestina*; Irises of which there is a good description in a recent number of IRISH GARDENING; *Trillium* or "Wood-Lily," *Primulas* of various kinds, and last, but not least, numerous *Saxifrages*.

J. R. of B.

## Flowers of April.

UP to the sixteenth the weather was variable and, on the whole, cold, with very little sunshine until the thirteenth, when the sky cleared somewhat, and things looked brighter. Nevertheless, the cold continued, and on the night of Sunday the fourteenth a sharp snap of frost, viz., 8°, made the Daffodils look sick. Up till then they have seldom looked better, and great masses of Emperor, Empress, Sir Watkin, *Barrii* conspicuus, Albatross, Seagull, Lady Margaret Boscawen, &c., looked beautiful in the grass. In beds some of the finest varieties were White Lady, Noble, Great Warley, Valeria, Diana, Florence Pearson, and many others. These are to be seen in the Botanic Gardens at Glasnevin, where groups of the finest kinds in cultivation are annually planted in a large bed or border convenient for inspection. There the relative heights and time of flowering can be noted by visitors, as well as the particular points of beauty in each variety.

Near the Daffodils a border is planted with Wallflowers in blocks of different varieties, including Giant Yellow, Cranford Beauty, Blood Red, Ellen Willmott, Orange Bedder, Ruby, White Gem, &c. Double Daisies, Pansies, Alyssum, and Forget-me-Not help to brighten these troubled days, and are a source of delight to many of the wounded soldiers from the hospital near by.

Many trees and shrubs have added their quota to the month's delights, and many still are opening. The following are mentioned in the order they were jotted down in a notebook day by day, as each happened to strike the eye.

*Syringa affine* was early in evidence, and is a useful early flowering Lilac of open habit and bearing thyrses of lilac pink flowers. Flowering at the same time was *Syringa pinnatifolia*, a comparatively new introduction from China. It is not likely to have any great interest for any except botanists and collectors, the flowers being small and not very conspicuous. The chief interest lies in the pinnate leaves.

*Euptelia Franchetii*, also from China, attracted notice in a shrubbery from the leafless branches bearing numerous clusters of reddish chocolate-coloured flowers, which, on close examination, are found to be merely bundles of stamens—hence male flowers; no female flowers were to be seen.

The *Exochordas* form a useful set of early flowering shrubs, and succeed well as wall plants. They are, however, quite hardy in the open, but they flower rather later; *E. grandiflora* is beautiful when furnished with its pure white flowers borne in erect racemes, and makes a fit companion to *E. macrantha*, equally fine with large white flowers, and *E. racemosa Wilsoni*, which differs from the others in the more drooping inflorescence. *E. Giraldii* so far has failed to justify expectations concerning it. Of slower and more compact growth than the other species mentioned it also flowers but sparingly, and the flowers are by no means so beautiful. It may, however, improve with age, or perhaps requires a sunnier climate.

*Diervilla præcox* maintains its position as the earliest flowering "Weigelia," and early in the month was a mass of pink flowers.

The Brooms were much in evidence, and show great variety in habit and shade of yellow. *Cytisus biflorus, præcox, purgans* and *albus* were conspicuous among the larger growers, while among those more suitable for the rock garden were *C. Beanii Kewensis* and *Ardoini*; of the latter there is a remarkably fine example in Mr. Lloyd Praeger's garden at Rathgar. It

hails from the Maritime Alps, and is a gem for a sunny position on the rockery.

*Clematis alpina* is the first of the Clematises to flower after such winter flowerers as *C. Balearica*. It apparently varies in colour from seeds; some plants having flowers of a good blue, while others incline to a puce shade.

Magnolias were attractive until marred by frost. The most conspicuous were *M. conspicua*, *M. soulangeana*, *M. salicifolia*, *M. Kobus* and *M. stellata*.

roots when a more naturally developed specimen should result.

The Pyruses are in their glory at the middle of the month, and prove their value as flowering trees in no uncertain way. Among the most striking species are *P. Zumi* with white flowers, *P. prunifolia*, white; *P. nivalis*, pure white and very conspicuous when in flower; *P. ringo*, and the variety *pyramidalis* are beautiful with clusters of pink flowers becoming lighter as they open fully. *P. spectabilis* and its varieties



CONES OF *PINUS EXCELSA*.

*Amelanchier canadensis*, the North American June berry or Snowy Mespilus, was a mass of its small white flowers, which in some seasons are followed by red berries, while the leaves die off in beautiful red and yellow shades.

*Prunus Sargentii* flowered early in the month, though only a small specimen in the meantime. It is reputed to grow as much as 80 feet high in nature, but when a good deal less it will be a beautiful object in our gardens. The flowers are comparatively large—over an inch in diameter—and of a beautiful blush pink colour. The specimen here is unfortunately a grafted one, but should seeds ever be produced an effort will be made to get a plant on its own

rosea and Kaido are most attractive when covered with clusters of flowers red in the bud state, and becoming pink as they expand.

*Pyrus cordata* is a handsome and robust form of the common Pear *P. communis* and attracts attention by reason of its bold trusses of white flowers. *P. floribunda* and its varieties *atro-sanguinea* and *purpurea* are among the most delightful of small flowering trees. The flowers are produced in great abundance, red when in bud, but becoming pink when open. In *atro-sanguinea* the flowers are deeper in colour, but the finest of the three is *P. floribunda purpurea* with purple red flowers of wonderful beauty.

*Plagiospermum uniflorum* is a spiny shrub

with mostly small solitary white flowers and narrow linear leaves; the branches are grey when young, afterwards becoming brown. It has no extravagant claims as a decorative shrub, but is an interesting member of the rose family discovered in China by Mr. William Purdom.

*Ceanothus rigidus* was in flower early in the month, and was still in good form at the time of writing. The stiff branches are thickly clothed with clusters of purplish blue flowers so freely produced as to almost hide the leaves. The small leaves are toothed at the apex, and in this differ from the form said to be the type described by Nuttall which came here from Miss Willmott's collection. A very conspicuous tree at the present time is *Prunus cornuta*, the Himalayan Bird Cherry. The leaves just now are of a lovely bronze hue quite conspicuous among the other green-leaved and leafless species near by. It will shortly produce spikes of flowers much like those of the common Bird Cherry.

*Lonicera tatarica rosea* is worthy of mention if only because it succeeds with but indifferent treatment, and is a useful early flowering shrub to plant in a rough corner where it will take care of itself and produce abundance of pink flowers. *Raphiolepis Delacouri* is allied to *R. japonica* and is now bearing spikes of pink flowers. It promises to be a useful evergreen with good flowers when it has attained some size.

Glasnevin.

J. W. B.

## Notes.

### *Rhododendron cuneatum* \* (W. W. Smith).

THIS species is a stiff shrubby plant, from three to five feet high. Its foliage buds are not conspicuous until after flowering. Leaves leathery dark green above, with a tawny grey mat beneath.

The flowers are produced in solitary terminal three-flowered umbels, though occasionally only one or two flowered, of a rose lavender colour. The tube is somewhat funnel-shaped, the outside bearing pilose lepidote, small, far scattered scales.

Stamens ten, shorter than the corolla; the style being reddish purple and pilose at the base. The foliage seems to be variable in character, as well as the colouring of its flowers.

As a garden plant this species is very hardy, and by no means fastidious in regard to soil or position; it was collected by Forrest on the

margins of pine forests on the eastern flank of the Lichiang Range, at an altitude of 12,000 feet.—R. L. H.

## Chinese Rhododendrons.

THE accompanying illustration shows the north-east face of the great Lichiang Range in China, and is of interest to gardeners as showing the native habitat of some of the Rhododendrons recently introduced to this country. In our last issue we illustrated *Rh. cuneatum* from a photograph taken in China by Mr. George Forrest—a brief description of that species is given in the present issue. Among other species which have flowered, or are flowering, we may mention *Rh. Davidsonianum*, *Rh. poly-lepis*, *Rh. Hanceanum* with pink, purple and white flowers respectively.

## *Prunus Dasycarpa*.

IN the early days of March this small tree was most attractive, and has never before flowered in such lavish profusion. The leafless branches were thickly clothed with large pure white flowers, the effect from a distance being very fine. It appears to be little known in this country outside botanic gardens, and would probably be difficult to obtain except from a continental nursery. In foreign catalogues it may be found listed as the Plumcot, an allusion to its supposed origin as a hybrid between the plum and apricot. When happier days return it is to be hoped that our home nurserymen will make an effort to enlarge their collections so as to include many of the beautiful trees and shrubs which hitherto have had to be obtained from France and Germany.

## *Prunus Pseudocerasus Watereri*.

THIS remarkable and handsome double cherry has been referred to in IRISH GARDENING every spring for several years past. This year it is again a mass of its soft pink blossoms, and the plants in the Royal Botanic Gardens at Glasnevin are a source of great attraction to visitors. Waterer's variety is one of the best, but New Red obtained from France before the war is apparently of the same habit, but with deeper coloured flowers.

That fine Japanese cherry often called J. H. Veitch has been shown by Mr. Bean of Kew to belong to *Prunus serrulata*, and not to *P. pseudocerasus* as often supposed. It is properly called, therefore, *P. serrulata Veitchiana*, and is a beautiful plant when in flower bearing masses of rose-pink flowers.

\* See illustration, page 55, last issue.

## Food Production.

### Haricot Beans.

OSTENSIBLY because they were so readily purchased at the grocer's shop in pre-war days, the cultivation of the Haricot Bean was not seriously attempted in the British Isles. The erroneous impression was also fairly general that our soil and climate are unsuitable for their cultivation from a commercial standpoint. Some eighteen months ago the soaring upwards of the prices of imported Butter Beans and Haricot Beans naturally caused food growers to

unobtainable from the shops, and the Brown Dutch Beans secured a footing, and have come to stay. The flavour and food value surpasses the kiln-dried shop Beans, and both in stews and as a separate vegetable there is now no question of their value. Another valuable variety which did exceptionally well with us last summer both in the garden and allotment was Sutton's Green Gem, a pale green-seeded variety of delicious flavour.

During the summer of 1917 in the Richmond (Surrey) district numerous varieties of Haricot Beans were grown in gardens and allotments. The preference in the household for the white-



CHINESE RHODODENDRONS IN THEIR NATIVE HABITAT.

Photo by Mr. Geo. Forrest.

consider the possibility of their cultivation at home. In this direction the Royal Horticultural Society took a leading part, importing and distributing at a small charge large quantities of the Brown Dutch Bean from Holland. Numerous letters in the horticultural press during the last six months furnish abundant evidence of the success in its cultivation and value as a food. A heavy crop of pods is the invariable record from many localities equaling and, in some instances, surpassing, the yield of the popular Canadian Wonder Kidney Bean. In a few instances there was prejudice from the kitchen because of the brown colour, but for a short time the White Haricots were

seeded Beans not unnaturally led to some experiments with these, and with gratifying results. While it is not possible to justly claim that in all soils and situations where the popular Scarlet Runner succeeds White Haricot Beans may be grown, or that they are quite so vigorous in growth and abundant croppers, the food value of the Haricot Bean in winter justifies their extended cultivation.

Taking the climbing section first; allotment holders here have had for several years a variety known as the Japanese Bean, or the "Three Feet Long" Bean. The white seeds resemble those sold in shops, and are produced in narrow kidney-bean like pods 1 foot long.



Another equally satisfactory variety is that known as the Climbing White Dutch, the seeds of this being as large as some of the Scarlet Runner Beans, and the nearest in size to the Butter Bean of commerce. Sutton's Climbing White Haricot French Bean is a third variety with white seeds deserving of attention.

Among dwarf Beans with white seeds, Sutton's Dwarf White Haricot and Vilmorin's Haricot de Soissons nani are recommended.

The cultivation of Haricot Beans present no problems. With good and deep cultivation identical treatment to that given the Dwarf Kidney and Runner Beans may follow. Though if hard pressed for pods in the green state to cook, a few of the earliest may be gathered, the usual rule is to allow all the pods produced to mature. When ripe the plants are pulled up and left on the ground a few days to dry in the sun. They are then tied in bunches and hung in a dry airy shed. Picking off the pods provides work for a wet day, followed later by removing the beans from the pods.

Surrey.

A. O.

### Beans of Sorts.

EARLY May and thereafter for a few weeks is a suitable and favourite time for sowing what are popularly known as dwarf, Kidney or French Beans, Climbing French, and Scarlet Runners. The whole comprise a class of vegetables of the greatest value during late summer and autumn, being nutritious and health producing, and valuable in the rotation of crops owing to their belonging to the family of pod-bearers, the benefit of which, to the soil, has been fully and frequently alluded to in recent issues of this Journal.

The soil cultivation is practically the same for all. A deeply-worked soil is a necessity, and nothing less than two spits should be considered enough. Poor soils will require a liberal supply of dung or other decayed vegetable matter to retain moisture; but heavy soils, especially if inclined to be wet, will be infinitely better without too much farmyard manure. All these Beans love warmth both in the soil and air, and too stagnant a condition in the soil is wholly detrimental. A free, well-pulverised soil, through which the roots can ramify, and in which they can seek the cool lower layers in time of heat and drought is far better than piling in heavy manure near the surface. The manure when applied should be between the top and second spit, that is, a foot or so deep. The top layer of soil must be broken down finely, and when the surface is just dry enough so that the soil will not

stick to the boots it should be lightly trodden over, and then raked level.

### Dwarf, French or Kidney Beans.

For these the rows should be two feet apart, and the drills three inches deep. The Beans should be not less than six inches apart, and the soil above them slightly firmed with the foot. There are many varieties of dwarf beans, nearly every seedsman having several kinds associated with his own name. For late supplies Canadian Wonder is a recognised standard variety, a strong grower and prolific cropper; Ne Plus Ultra and Syon House are often sown for an earlier crop, but any reliable seedsman will supply suitable varieties on request.

### Climbing French Beans.

These give a great return of pods for cooking, and are well worth growing where space can be afforded. They grow five to six feet high, and consequently require the rows to be about the same distance apart. If more than one row be grown it would be a convenient arrangement to grow a couple of rows of a dwarf variety between them. The climbing varieties of course require stakes if grown in the open, or strings attached to a taut wire top and bottom. Where a wall is available they may be trained against it by attaching strings to nails. Sow the seeds six inches apart, and place the strings accordingly. A sunny open position is desirable, but, at the same time, somewhat sheltered, they are, therefore, more suitable for the enclosed private garden than for the allotment, which is frequently situated in an open field.

### Runner Beans.

Here, again, thorough soil preparation as described above is essential. The Runner is a gross feeder and well repays plenty of manure. We are aware, however, that it is useless recommending heavy applications of manure at the present time, for except in special cases it is practically impossible to obtain manure even for potatoes. Plottolders and others so situated must not be deterred from growing crops on this account, as wonderful results accrue from deep digging and constant surface hoeing all summer even without manure. If any manure at all is available it will be well, for Runner Beans, to dig the ground first and then open trenches the width of the spade and fifteen inches deep, spreading the available manure in the bottom, and replacing the soil to within four inches of the top. Sow the seeds



one foot apart and cover with the remaining soil. If stakes are used they should be eight or nine feet high, or strings of the same height can be arranged as suggested for Climbing French Beans. In the absence of stakes the market gardener's plan of pinching the points of the shoots at two feet high is quite a suitable practice, and plenty of pods will be available for use in the autumn. All the beans mentioned above are at once susceptible to frost, and consequently should not be sown before the 1st May, unless in districts where frosts are rare after the middle of April. Likewise the first sharp frost in late autumn will put an end to the crop. The stems, leaves and roots of all these beans should not be removed and wasted, but should be dug into the soil as they form excellent manure.

### Preserving Fruit without Sugar.

THE article on the above subject by Mr. Pow, which appeared in the April number of IRISH GARDENING, is full of valuable information, especially so now when sugar is only supplied to those who grow the fruit, and not to those who would buy fruit for preserving if sugar could be obtained. As regards the covering of the bottles, it may interest those who contemplate trying this method, to know that caps, rubber rings, &c., mentioned by Mr. Pow are not essential. Excellent results have been obtained by covering with paraffin wax. This wax can be bought from any druggist at 1/6 to 1/9 per lb. It should be boiled down to a liquid, and when boiling poured on to the water in the bottles immediately on removal from the fire or stove, or whatever the heating apparatus may be. Only a thin layer is necessary, certainly not more than  $\frac{1}{2}$  an inch, and a  $\frac{1}{4}$  inch is quite sufficient. This cools quickly, and forms a complete seal, excluding all air from the bottles. No further covering is necessary, but for appearance sake an ordinary jam pot paper cover may be put on to prevent dust adhering to the wax if the bottles are to be stored for any length of time. In pre-war days lard answered the purpose of covering, used in the same way, and giving the same good results, but all housekeepers know the value of that article now, and would hesitate to use it for fruit covering.

Half-a-pound of paraffin wax would cover 12 to 18 bottles, according to size. As regards bottles, any glass bottle, from which it would be easy to extract the fruit will do—the bottles in which preserved fruits are bought from a shop, bottles bought specially for bottling fruit, or even glass jam jars. R. M. POLLOCK.

### Spring and Summer Spraying of Fruit Trees.

*Caterpillars.*—There is every likelihood of a bad attack of caterpillars on fruit trees this year, and, since there will be a great demand for fruit, it is especially important that growers should keep a sharp look-out for them just as the buds are opening. If the caterpillars are discovered and destroyed then, little real damage will be done to the trees, but if nothing is done a bad attack may develop, resulting in the stripping of the leaves and a severe or total loss of crop.

A *nicotine and soap wash* is the most satisfactory means of killing the caterpillars before the flowers have opened, as it destroys Apple Sucker and Aphid at the same time. The application should be made by means of a spraying machine or garden syringe, applied in a coarse spray with plenty of force so that the wash penetrates right into the buds and fruit trusses and so poisons the caterpillars' food. To make sufficient solution for 10 medium-sized trees dissolve  $\frac{1}{2}$  lb. of soap, preferably soft, in a little hot water, dilute with cold water to make 10 gal.; add  $\frac{3}{4}$  oz. of nicotine (95 per cent. purity) and stir well. It is best to use soft water, if possible, but when only hard water is available increase the amount of soap to 1 lb.

There are many satisfactory "proprietary" insecticides containing nicotine on the market which may be used instead of this wash.

If the attack is not discovered until after the flowers are open a *solution of lead arsenate* must be substituted, as nicotine will not kill well-grown caterpillars.

The arsenate of lead should be bought in the form of a paste. Half a pound of paste dissolved in 10 gal. of water is sufficient for 10 medium-sized trees. The wash must be applied in a very fine spray so that the entire surface of the leaves is covered with the poison. Spraying should cease when the leaves begin to drip. The amount of arsenate of lead eaten by the caterpillar as it feeds on the leaves is sufficient to cause its death.

*Aphis (Blight).*—There are many species of Aphides (commonly known as blight or greenfly) which attack fruit trees. In most cases they cause leaf curling and severe injury to the young shoots.

These insects have no biting mouths, but obtain their nourishment by sucking the juices from the internal tissue of the host-plant through a long tongue or proboscis. Consequently poisoning their food is useless, and a spray which will kill them by actual contact must be used.

It is essential to spray as soon as the first signs of attack are noticed—the female aphides reproduce young with enormous rapidity if circumstances are favourable; but an attack can be reduced very considerably, if not entirely prevented, by killing them before they have commenced breeding.

Moreover, once the leaves are curled it is impossible to kill the aphides by spraying, as the deformed leaves afford them perfect protection.

The best wash to use is nicotine and soap as already described, but 20 gal. will be required for 10 trees.

Apply the wash with plenty of force in a coarse spray, using a spraying machine or garden syringe. Make quite sure that all the leaves and shoots are thoroughly wetted.

*General Notes.*—Thoroughly wash out and clean the spraying machine with cold water after use to prevent clogging.

Great care must be taken in handling either of these washes on account of their poisonous properties. Never eat vegetables which have been grown beneath trees sprayed with lead arsenate or nicotine until at least a month has elapsed since the application in the case of the former, a fortnight in the case of the latter. The same applies to the picking of green gooseberries from bushes which have been sprayed with arsenate of lead to kill the false caterpillars of the Gooseberry Saw-fly.

Lead arsenate and nicotine can only be obtained from firms licensed to sell poisons. If supplies cannot be procured from a horticultural sundriesman, the local chemist should be asked to obtain them. In any case the "Poisons Book" must be signed in compliance with the "Sale of Food and Drugs Act."

The above washes may be used to spray all manne of fruit trees.—*Journal of Board of Agriculture.*

## Friends and Foes of Allotment Holders' Crops.

APART from the principal insect pests which have been referred to in previous notes, and some few others of less common occurrence, there are other enemies or diseases which affect the crops grown on the allotment.

Some of these diseases, such as the damping off disease, affect the plants mainly while they are still in the seedling stage, while other diseases affect the plants at different stages in their development, whenever weather and other conditions are favourable to the disease. Certain of the diseases have a tendency to affect one part of the plant only, while other diseases are able to affect practically the whole of the plant.

Diseases in plants are mainly brought about by Fungi, which are more or less microscopic in size. Fungi are plants of comparatively simple structure; they do not possess chlorophyll (the green colouring matter of ordinary plants) and are not able to manufacture sugar and starch under the influence of sunlight as do plants which possess chlorophyll.

The Fungi therefore obtain their food already manufactured, feeding either on living plants or animals or dead plants or animals, or their remains.

If we take for an example one of the larger Fungi, such as the common mushroom, we find that above the ground the mushroom—as it is used—consisting of a stalk, surmounted by a cap, on the under side of which are to be seen a number of thin plates or gills, which are pink in the earlier stages of development (in the edible mushroom) and brownish or even black as maturity is reached. If one of the brownish mushrooms is placed over a piece of paper—gill side down—on a sunny day, and left for a few hours, a quantity of brown, dust-like material will be found on the paper. If this dust is examined under a good microscope it will be seen that the mass is made up of minute granular bodies. These are called spores and given suitable conditions the spores will germinate or begin to develop, forming whitish thread-like structures known as mycelia; these structures are the so-called vegetative part of the plant; they gather the food material from the media in which they live; they are to be found

at the base of the mushroom ramifying through the soil. After a time these threads join together and give rise to the special branches or "mushrooms," which are known as the spore bearing or reproductive organs. The nature of these organs and of the spores borne on them differ considerably in the different groups of Fungi which cause plant diseases. While in the mushroom sexual spores are not developed, in most diseases they are. We have, in fact, at least two distinct types of spores—the so-called summer spores, which, as a general rule cannot withstand prolonged dryness or extremes of heat. By means of these spores the various diseases spread during the summer or growing season, and the so-called winter spores, which are more hardy, so to speak, and through which in many cases the disease carries on from season to season. In quite a number of cases also the mycelium is perennial, and plants become affected through its development.

**DAMPING OFF DISEASE.**—One of the principal diseases affecting the crops grown on the allotment, especially where the holder possesses a garden frame, is the damping off disease.

This disease usually occurs where the seeds have been sown too thickly, and where thinning out of the seedlings has been unduly delayed. Also when overhead watering has been indulged in too freely, when the seed bed has been over-shaded, badly ventilated, improperly drained, or over-warm or cold, as the case may be. When this complaint attacks the plants they topple over in a rather characteristic manner and soon rot away. If the diseased seedlings are examined under the high power microscope, the threads or mycelia and the spore-bearing branches will easily be seen. When one or more plants are affected the disease soon spreads by means of these to other plants until the whole lot very often dies from the disease. To check the development of the disease the seeds should first of all be sown under healthy conditions, put into properly drained beds or boxes, sown thinly, thinned out early, watered with extreme care, avoiding anything in the nature of over-watering (especially such as by saturating the foliage at night and then closing the frame or ventilator) keeping the plants freely ventilated and exposed to full sunshine.

By partially sterilising the soil either by steaming or pouring on boiling water before the seeds are sown many of the spores of the disease usually found in the soil will be killed.

**CLUB-ROOT OR FINGER AND TOE DISEASE.**—A disease which is very prevalent in Turnips, Cabbages, Cauliflowers, &c., in old gardens, on heavily manured land, and on sour soils or where the soil is lacking in lime is the one known as Club-root or Finger and Toe.

As is well known this disease affects the roots of such plants, causing the development of the curious swellings from which the disease gets its name.

These should be distinguished from the other more globular swellings found on the stems which when cut across, shows grubs within them, whereas in the disease mentioned no grubs will be visible. If clubbed specimens are allowed to remain in the ground, or if used for pig feeding, &c., in the raw state, and thence passed on to the manure heap, the disease becomes more virulent and persistent. The disease often occurs on the

two extreme types of soil, namely, heavy or badly drained clays (and peaty soils) and on the light or extremely sandy soils. In the former case the soil gets water-logged, badly aerated and sour, usually lacking in lime, and in the latter any lime which may have been present originally has been washed down to the lower layers. It is seldom recognised by cultivators that lime when put on to the ground soon filters down to where it is of little use to most plants.

This disease which is brought about by what is known as a slime fungus, an organism lower down in the scale than the ordinary fungi, is somewhat difficult to get rid of where it has been on the plot for some years. The best method of treatment is thorough cultivation by means of trenching, and draining where this is necessary, backed up by the free use of lime. The disease is practically unknown where there is a sufficiency of lime in the soil. Quick or burnt lime is usually the most effective form of lime to use for this purpose; it should be spread over the ground at the rate of 2 cwt per  $\frac{1}{15}$  acre plot (10 perches) and slightly pointed or forked into the surface soil some few weeks before sowing or planting. Acid fertilisers such as sulphate of ammonia and superphosphate should give place to others such as nitrate of soda and basic slag, where the disease has been prevalent, and all diseased material should be carefully burned.

W. H. J.

## Reviews.

### The Irish Allotment Book.\*

By LEONARD J. HUMPHREY.

THIS excellent little book is designed entirely to assist the thousands of beginners who are for the first time endeavouring to reap a harvest from the soil. That it will be a very considerable help we have no doubt at all, and at the low price of seven pence it should be in the hands of every allotment holder during his leisure moments when he is not using the spade or fork, the hoe or the rake.

Simplicity and thoroughness is the keynote throughout, and by not attempting too much the author has avoided the confusion which results from scraps of information on many diverse subjects.

Beginning with advice on how to obtain an allotment the author proceeds to deal with soil and aspect, preparing the soil, explaining clearly how to carry out double digging and trenching, and at the same time pointing out their difference. Ordinary digging is explained, and thence he goes on to deal with lazy beds, or as they are often called, ridges. It is satisfactory to note that the author has not much to say in favour of lazy beds except that they offer a quick and ready method of preparing grass land for Potatoes when possession is obtained late in the spring. Unless in wet situations this antiquated method should certainly be discarded after the first year. Crops to grow forms the subject of the next chapter, followed by manuring and the use of lime.

Methods of cultivation includes preparation of

the soil for different crops, depth to sow, and distance apart of the rows—succession crops, &c. We are glad to note that as a rule only the most useful crops are recommended, and not too much space is devoted to luxury crops, which have little food value. Potatoes are very fully dealt with from planting to lifting the crop. The concluding chapter deals very briefly with flowers for the allotment, a feature which in happier days we hope to see very much in evidence in all allotment areas. There is no reason why the main roads through allotment fields should not be furnished on either side with a few feet of a flower border. A few easily grown flowers at the end of each allotment next the road would result in a lovely display. We shall hope to enlarge on this after the war. Meanwhile Mr. Humphrey's book will be of the greatest assistance to allotment holders in Ireland, and we advise our readers to inquire for it at their newsagents.

### Estate Economics.\*

THIS is a comprehensive work dealing primarily with the general management of large estates, but equally valuable to all who are charged with administration of public parks and gardens, farms, forests or any form of land development. The author, Mr. Andrew Slater, is a man of wide experience and writes in a practical way suggesting that all the operations described have frequently been carried out under his personal supervision.

Appropriately the opening chapters are devoted to the origin of soils, their drainage, &c.; roads, their construction and maintenance, forms the subject of another chapter, and likewise the embanking of rivers is dealt with in detail. Fences and gates, hedges, walls, &c., all important adjuncts of large estates, parks and gardens, are reviewed and illustrated together with clear directions for their erection and upkeep. Buildings, many and various, adapted to the requirements of rural industries are fully dealt with; numerous plans and sections, showing clearly the author's grasp of the subject. The construction of stables, cow-sheds, piggeries, &c., are carefully described and illustrated down to the smallest details concerning ventilation, drainage, formation of gullies, channels, &c., and the provision of sanitary permanent feeding troughs, &c.

The importance of an efficient water supply is of primary importance, and much helpful advice and instruction are set forth.

At the present time the proper and economical utilization of waste land is of paramount importance, and useful hints are given on the preliminary treatment of such, together with the manuring and subsequent cultivation necessary to render it productive; hay meadows and water meadows are dealt with in the same chapter. Orchards are recommended in certain instances, and a useful list of varieties of apples is recommended. Motor traction comes in for discussion, and various types of tractors are illustrated.

The concluding chapter on Forestry is contributed by Mr. A. D. Richardson, a well-known authority, and deals thoroughly with the subject

\* Dublin: The Kenny Press, 65 Middle Abbey Street. Price 7d. Post Free, 8d.

\* Constable & Co. Ltd., 10 Orange Street, London, W.C. Price 10s. nett.

from the seedling tree to the mature forest. Seed sowing, various methods of planting, description and use of different species, the management of woods, the valuation of the crop, forest pans, &c., are all dealt with in detail. A useful appendix includes legal and other notes on march fences, road fences, quarries, water rights, rights-of-way, &c., also useful land measures, methods of calculating areas, laying out areas of various shapes, and content and measuring timber.

The whole work forms a most useful text-book and work of reference for estate agents, park superintendents, foresters and others engaged in land work of all kinds.

## The Month's Work.

—

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### VEGETABLE GARDEN.

MAY is always a busy month in the vegetable garden, weeds being particularly troublesome. Thin out White Turnips, Parsnips, and any other crop needing thinning. At the same time all weeds, large or small, can be removed from between the plants afterwards giving the space between the rows a good hoeing.

PEAS.—Continue to sow main crop Peas, draw the earth up to earlier sown varieties and stake them; peas should never be allowed to fall over for want of staking, as they never afterwards cling to the stakes properly.

FRENCH BEANS.—Make good sowings of French Beans. Draw lines 18 inches apart and drop the seed 9 inches apart. Canadian Wonder and Negro long-pod are both good varieties.

RUNNER BEANS.—The lines for these should be at least 12 feet apart; the ground between can be cropped with other vegetables.

BROAD BEANS.—Another sowing should now be made. As the Autumn sown Beans come into flower pinch out the points of each stalk; this will bring them into podding earlier and prevent attacks of black fly.

POTATOES.—If planting was not finished last month no time should now be lost in getting in the remainder of the crop; continue to draw the earth up to early planted sorts.

TOMATOES.—Those intended for planting out-door must now be gradually hardened off by giving more air. Towards the end of the month they can be stood out under a south wall and protected for a few nights when they can be planted in their fruiting quarters.

ONIONS.—Give a dusting of soot between the rows as a preventive to onion fly; complete the planting of those sown in boxes, and give a soaking of water if the weather is dry. Make another sowing of short-horn Carrot. This does not seem to be

affected by either the carrot fly or wire worm like the larger grown sorts, and the young roots are always appreciated.

CABBAGE.—A little seed sown now will come in very useful in the late summer and autumn. Sow Broccoli for May and June supplies; prick out seedlings of Brussels Sprouts, Cabbage and Cauliflowers.

SALADS.—Make a first sowing of Chicory in a deep, rich soil in rows 1 foot apart, afterwards thinning out the plants to 6 inches apart. Lettuce, Radish, Mustard and Cress sow at intervals of a fortnight.

VEGETABLE MARROWS.—Plant out under frames or hand lights. When all danger of frost is past they will not require any protection. Marrows when growing freely require a lot of water, and an occasional soaking of liquid manure will be very beneficial to them. Cucumbers and Melons growing in frames will require attention as regards air and watering; avoid draughts by admitting air at one end of the frame only. Water used for syringing and watering the plants should be about the same temperature as the air inside the frame. When the plants have made three or four pair of leaves pinch out their points.

#### FRUIT GARDEN.

So far as can be judged by the crop of blossom the Apple harvest this year should prove a good one. But, of course, everything depends on the weather during the first weeks of May when the blossom is fully open. Pears do not promise so well. Very few trusses of blossoms are to be seen on many of the trees. These remarks apply to this district only. I am not yet in a position to say what the prospects are in other parts of the country.

RASPBERRIES.—Thin out the suckers leaving the requisite number for next year's crop; retain the strongest shoots and avoid overcrowding, which would cause the canes to be drawn up and the wood badly ripened; result—a poor crop next year.

STRAWBERRIES.—If not already done clean Strawberry plots and give a mulch of strawy litter. Place nets over the beds before berries begin to colour. If Mr. Blackbird once gets the taste of a nice juicy berry they will be well netted indeed if he does not get some more.

DISBUDDING.—No time should now be lost in carrying out this most important operation. Plums, Pears and Apricots do not require very much disbudding; all that is necessary is to rub off any misplaced shoot. All shoots growing at the back of the tree should be rubbed off. Peaches and Nectarines fruit on the previous year's growth, and sufficient young wood must be left to furnish the tree with fruiting wood for the following year. If the trees have covered the space allotted to them stop the leading shoots at the fourth or fifth joint. Spray the trees with quassia or any other good insecticide directly aphids makes its appearance.

#### FLOWER GARDEN.

As spring-flowering plants pass out of flower lift them and transfer to their summer quarters.

Polyanthus and Primroses should be broken up into nice sized pieces and transplanted carefully into a corner of the kitchen garden, which is usually reserved for them. Narcissus and other bulbs when lifted should be placed together and covered with a little earth; this will ensure the foliage dying off gradually.

Hardy Annuals sown in April will require thinning out. It is important to remember when thinning annuals that to get the best results the plants need plenty of room. Sweet Peas will require good soakings of water if the weather is dry. An occasional watering with weak liquid manure will benefit them. If slugs are troublesome dust the plants with fresh slacked lime and soot mixed in equal parts.

No matter how good the weather conditions may be do not be tempted to plant out such tender things as Heliotrope and Begonias before the last week of the month or the first week of June. Stocks and Antirrhinums and the hardier bedding plants can be planted out from the middle of the month onwards.

Sow seed of Wallflowers, Sweet William, Canterbury Bells and other biennials. Hoe between plants in the herbaceous borders and stake any plants requiring it. Keep a sharp look out for green fly on Roses; directly the fly makes its appearance syringe with soft soap dissolved in a bucket of rain-water; 2 oz. of soap to the gallon of water will make a good wash.

## Midland and Northern Counties.

By E. RUTHERFORD, Late Gardener to C. W.  
DUNBAR BULLER, Esq., D.L., Woburn,  
Donaghadee.

### THE KITCHEN GARDEN.

**PEAS.**—Sow main crop varieties. Sow the seeds thinly in well prepared ground, and allow plenty of space between the rows. Peas will now require staking. Draw up the soil to the plants before the sticks are placed in position.

**BRUSSELS SPROUTS.**—The plants for the main crop should be planted in rich soil, which should be made firm. Plant in rows 30 inches apart and the same distance between the plants. Water until the plants catch hold of the ground.

**PARSNIPS.**—These are ready for thinning. Allow a space of 10 inches between the plants. Stir the soil between the rows with the hoe.

**CAULIFLOWERS.**—Continue to plant out Cauliflowers as soon as the plants are large enough, allowing them a space of 2 feet each way; plant in strong ground.

**POTATOES.**—As soon as the plants are well through the ground stir the soil deeply with a digging fork, and earth up as soon as fit. Some provision should be made for protecting them during frost.

**CELERY.**—Make trenches 12 inches deep and 15 inches wide and 4 feet apart from the centre of each trench, at the bottom of the trenches place a thick layer of manure, and cover with a few inches of soil. Place two rows of celery 10 inches

apart, allowing 14 inches between the plants in the rows. Celery must never be allowed to become dry.

**SEAKALE.**—The plants of fresh plantations require disbudding, leaving only one on each crown. It is necessary to get it done early as the shoots become weakly if left too long without being done. Old plantations can be treated in the same way, and cut away with a spade under the surface any shoots which are likely to throw up flower spikes. Keep the ground free from weeds.

**SPINACH.**—Make fresh sowings of summer Spinach in succession throughout the summer. New Zealand Spinach may be sown in rows 2½ feet apart in a sunny position.

**BET.**—Make a sowing of Beet Root for the main crop on ground which was manured for a previous crop. Sow the seeds in drills 15 inches apart, placing the seeds in groups of three about 1 foot apart.

**ONIONS.**—Spring sown Onions will be ready for thinning towards the end of the month. Where moderate sized bulbs are desired a space of 3 inches between the plants will suffice; the work should be done carefully in moist weather. Plants which were raised early in frames and planted out last month will be well established and will now benefit by a light dressing of artificial manure. Stir the soil between the rows with the hoe.

**RUNNER BEANS** may be sown in well dug, richly-manured ground. Sow the seeds in single rows and thin the seedlings to 10 inches apart in the rows. They require to be well staked as they are liable to be damaged by strong winds.

**TURNIPS.**—Make sowing in succession throughout the summer choosing a cool situation. Attend to the thinning of early sown Turnips and stir the soil between the rows with the hoe.

**MUSTARD AND CRESS.**—Make a sowing of these salads in a shady corner as the produce will be more tender.

**ASPARAGUS.**—In cutting the shoots take care not to injure the crown. Apply a dressing of salt to the beds during showery weather. The shoots of fresh plantations must not be cut; keep the beds clear of weeds.

**LETTUCE.**—Make sowings fortnightly throughout the summer to furnish plants for succession. Dickson's Monument and All-the-Year are good varieties. The Lettuces must be transplanted as soon as fit to handle. Choose showery weather.

**KIDNEY BEANS** may be sown in quantity. Where a constant supply of French Beans is required sowings may be made fortnightly.

**CABBAGE.**—Plant out from seed beds at every opportunity, choosing if possible showery weather.

**COLEWORT.**—Make a sowing of this useful vegetable towards the middle of the month.

**HOEING AND WEEDING.**—Keep the hoe at work among growing crops. The value of hoeing is not sufficiently understood by amateurs and is not practised enough; and attend to all weeding.

Young seedlings coming up must be protected from slugs. A little soot or lime dusted over the

whole bed should be put on at dusk or early morning when the dew is on the plants.

#### THE HARDY FRUIT GARDEN.

**GRAFTED TREES.**—The grafts should be examined and where the growths are well advanced the clay should be removed and the ties loosened a little. Rub off all shoots growing from the stocks below the grafts as soon as they appear.

**RASPBERRIES** that were planted last autumn should have the old shoots cut down to the ground as soon as the new shoots start into growth. New planted canes that are not allowed to fruit the first season after planting become well established in their first year and make strong growth. Established plantations of Raspberries produce as a rule a large number of suckers at a distance from the stool and these should be removed as soon as they appear.

**GOOSEBERRIES.**—It is advisable to spray Gooseberry bushes with a strong solution of McDougal's Katakilla to prevent attacks of the caterpillar which strips the trees of their foliage.

#### THE FLOWER GARDEN.

**WALLFLOWERS AND SWEET WILLIAMS** may now be sown in rows 1 foot apart, on ground which is not very rich. Sow the seeds thinly. Blood Red, Cloth of Gold, Vulcan, and Eastern Queen Wallflower; Pink Beauty, Scarlet Beauty, and Giant White Sweet William are good varieties.

**BEDDING PLANTS** should be placed in frames to gradually harden off. Watch for signs of frost at night that the plants may be protected. Provided the plants are hardened suitably, Calceolarias, Marguerites and ivy-leaved Pelargoniums may be planted in beds or borders. Half-hardy annuals may be planted as they become fit. The tenderest plants—Heliotrope, Dahlias, Cannas and Begonias, must have protection at night until all danger from frost is past.

**SPRING BEDDING PLANTS.**—Immediately the plants are over clear the beds and prepare them for the summer bedding. Myosotis may be planted thinly in a shady border; they will ripen their seeds and a crop of seedlings will appear. Arabis and similar plants from which it is intended to take cuttings should be planted in a shady border.

**CANTERBURY BELLS.**—Sow the seeds very thinly. They are very small. Transplant as soon as fit to handle.

### Notes.

#### Birds of the Garden.

OBSERVATIONS in this and other countries do not supply evidence to justify the wholesale condemnation which certain species of birds receive as enemies of the cultivator. That some species develop in certain districts habits inimical to the cultivator must be admitted, but no one is justified in condemning a species in *every district* for damage done in *some particular one*.

Areas are found where Bullfinches and Tits destroy the buds of fruit bushes, or where great difficulty is experienced in raising, outside, plants of the Brassica family, through the attacks of Greenfinches and Chaffinches. Examples such as these could be multiplied. Yet these birds are harmless in other districts.

At times it may be necessary to ruthlessly stop the depredations of one or other species, but on no account should war be waged against birds in general, or some species in particular, because of bad records established elsewhere.

Apart from the inestimable value of birds in keeping in check insect pests, their absence would make the garden less interesting and less beautiful.

A. McL. MAY.

Dundoon, Coleraine, March 14.

#### Rhododendron Fulgens.

FEW shrubs, it must be admitted, are more beautiful than Rhododendrons; none flowering more freely or lasting longer in bloom. Their requirements are by no means hard to meet where lime is absent. Rhododendron fulgens, one of the Himalayan species, I think is one of the most attractive. It is flowering here now, and its glowing crimson blooms are very striking.

We have managed to keep it through the very severe weather one gets in this part of Shropshire. It is well to cover it with paper or something of the kind in frosty weather. It should be planted in a sheltered position away from the fierce rays of the sun. Mulch thoroughly with leaves and keep moist, especially in summer.

EILEEN O'FARRELL.

Shavington Gardens, Shropshire.

#### Forsythia.

As one walks up the avenue past the evergreen and budding shrubs one's eye is caught by the glorious golden yellow Forsythia. Its bell-shaped flowers grow in healthy profusion on long trailing shoots, and being of good substance last a long time.

It can be used as a wall plant, but here at Shavington Hall we have it in a sheltered corner where the branches can spread about at will. It forms a very distinct and handsome shrub, and one that is perfectly hardy and quite indifferent regarding the quality of the soil or position. We get the best results by cutting hard back in spring after flowering. There are several forms of this charming shrub.

MIZIE O'FARRELL.

Shavington Gardens, Shropshire.

#### The Land of Big Potatoes.

IRELAND'S WESTERN RIVAL.

THE Edmonton district of Alberta is rapidly making a name for itself in connection with the size of its Potatoes. A farmer at Fallis states that his yield of Potatoes was more than 500 bushels to the acre, while the average size of the tubers is one and a half pounds. This is said to be the rule rather than the exception in this district—*Canadian News*.

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# Irish Gardening

## Contents

	PAGE		PAGE
Old Conna Hill (Illustrated)	81	Notes—Continued.	
Some Notes on Rhododendrons (Illustrated)	82	Onion Mildew	91
Flowers of May	86	The Pea Weevil	92
The <i>Æthionemas</i>	88	Green Fly on Roses	92
Notes—		The Prevention of Potato Disease	92
Gladiolus Tristis	89	Allotment Observations	94
Aubrietias (Illustrated)	89	Reviews	94
Intermediate Irises	90	The Month's Work—	
Tulips	90	Southern and Western Counties	95
The Hedgehog Broom (Illustrated)	91	Midland and Northern Counties	95



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1918

EDITOR—J. W. BESANT

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## Old Conna Hill.

THIS, the home of Captain Riall, is one of the most interesting places in Co. Dublin, or, for that matter, in Ireland. Situated on the sunny slopes above the town of Bray it is favoured with a comparatively mild climate, resembling that of other places near the coast and in the adjacent county of Wicklow. Though in places exposed to the east wind this is tempered to some extent by well-grown coniferous trees planted by Captain Riall's father, and which are now fine specimens. *Pinus insignis*, now properly called *P. radiata*, thrives well, and two huge specimens, planted between fifty and sixty years ago, are now towering skywards with large trunks and branches, giving the appearance of much greater age. Also remarkable are the fine examples of *Picea morinda*, of which there are numerous specimens; *Pinus Montezumæ* is represented by two plants not as large as at Fota, but healthy and growing. There is a fine specimen of the Californian Redwood, *Sequoia sempervirens*, with its fibry-barked reddish-coloured trunk, beloved of squirrels for building their nests. Among younger Conifers which are thriving well mention may be made of the Japanese *Picea polita*, the Servian spruce *Picea omorika*, *Abies bracteata* from the Santa Lucia mountains, *Abies concolor*, *Abies Veitchii*, and the beautiful *Picea pungens glauca*. *Rhododendrons* do remarkably well, as will be seen from the illustration given of *Rh. Falconeri*, which bore over one hundred and fifty of its handsome trusses of pale yellow flowers. Near by a fine bush of *Rh. Thomsoni* was a riot of crimson bells, wax-like in substance, and most striking when viewed against the sun. *Rhododendron*

*arboreum* in its several forms thrives well, and many garden hybrids give great masses of colour. *Azaleas* naturally grow vigorously and were just beginning to open. *Embothrium coccineum*, which is growing into a large bush, was well furnished with buds, and by the middle of May would be a fine sight. The New Zealand *Pittosporums* are quite at home, and one of the prettiest, *P. Mayi*, is making fine growth and developing into a handsome specimen. By the same woodland walk *Grevillea rosmarinifolium* is growing well, and at the time of my visit in early May was already in flower. Towards the garden proper is an area enclosed by a wall on one side and on the other by a tall dense well-kept yew hedge. In this cosy corner a fine example of *Magnolia Watsoni* was full of buds, but I was a week too early to see the open flowers; *Magnolia Lennei*, however, was open, and *Magnolia stellata* still in good bloom. Turning into the walled garden one is met by a fine array of rare and beautiful shrubs. On a wall *Cantua dependens* is flourishing and was bearing many of its long tubular pale reddish flowers, a most striking plant when seen growing outside. It is often grown on pillars and walls in greenhouses. On the same wall *Dendromecon rigidum* was carrying a good crop of its yellow Poppy-like flowers, and the white variety of *Clanthus puniceus* was smothered in blossom. A border in front of the wall is full of good things, notably grand bushes of Tree *Pæonies* in fine flower—a grand sight. A large bush of *Tricuspidaria dependens* in the pink of health was carrying myriads of flower buds and will be a glorious sight in a week or two. Two grand

old specimens of *Myrtus Luma*, generally known as *Eugenia apiculata*, are a feature here also, not the least of their attractions being the ornamental light reddish brown bark of the trunks and branches. In autumn they often carry a fine crop of black fruits. Across the walk from the *Myrtus* is an old healthy specimen of the Loquat, *Eriobotrya japonica*, raised from seeds sent home from Malta by Capt. Riall when stationed there with his regiment very many years ago. On a trellis *Clematis montana rosea* was flowering well, though only a young plant, and on a pergola near by *Wistaria multijuga* was well furnished with developing racemes which will shortly be a beautiful sight. Roses, of which a good collection is grown, were looking very healthy. The dwarfs are planted in beds of a sort to give the best effect.

Clearings have been made in the woods adjacent to the gardens, and here *Rhododendrons* and other shrubs are gradually being planted. Among the newer Chinese *Rhododendrons* were noted *Rh. Augustini*, *Rh. lutescens*, and *Rh. Davidsonianum*, together with other unflowered species raised from seeds got from India. Near the house *Euphorbia mellifera* is like a small tree sheltered by *Osmanthus Fortunei*, the largest specimen I have seen.

Under glass *Cyclamens*, *Cinerarias*, *Carnations*, *Primulas* and *Schizanthus* were in fine condition, testifying to the care and skill of Mr. Webster, Capt. Riall's head gardener.

At Graigueconna, near by Old Conna Hill, there is a delightful rock garden made by Capt. Meredith, who is well known to lovers of alpine through his book, "Rock Gardens and how to Maintain Them." Although Captain Meredith has been absent on service for three years, and to some extent the garden has suffered thereby, there is still abundance of colour and interest. Prominent of course were masses of *Aubrietia* which give so fine an effect where a display of colour is wanted, but many other beautiful plants are thriving wonderfully. The beautiful clumps of *Daphne cneorum* raised a feeling of envy, while *Lithospermum prostratum*, often difficult, there actually seeds about the rockery, and comes up in unexpected places. *Æthionema schistosum* was in fine flower, and a pretty carpet of *Veronica cinerea*, with its bright blue flowers and grey foliage, was a cheerful sight; while a low bush of *Prunus prostrata*, with its small rose-coloured flowers, makes an interesting rockery shrub.

Here, too, *Dendromecon rigidum* was flourishing on a wall near the rock garden, and *Magnolias* and *Cherries* of sorts were flowering freely in the vicinity.

Time did not permit of a leisurely examination of the whole garden, but it is abundantly evident that when the war is over Captain Meredith will have no difficulty in rapidly making good any deficiencies which have resulted during his absence.

## Some Notes on *Rhododendrons*.

PERHAPS the best of all the *Rhododendrons* is *R. Griffithianum* (often incorrectly called *R. Aucklandii*), a native of Sikkim and Bhotan, and in its full glory in the month of May. It has been largely used for purposes of hybridisation; and it is one of the parents of the beautiful and well-known *R. "Pink Pearl,"* of *R. kewense* (with *R. Hookeri*), of *R. Manglesii* (with *R. album-elegans*), of *R. "Irish Beauty"* (with *R. arboreum*), raised at Glasnevin, and of many others. Nor should those hybrids be omitted that have been produced by Sir Edmund Loder, who has been very successful in this interesting and useful branch of horticultural science, the best of which is the true *R. Loderi* (*Griffithianum-Fortunei*), with a splendid truss of large white flowers. He kindly sent me some of his hybrids; one has flowered this year, and for colour (a delicate shade of light rosy pink), for elegance of shape, and for profusion of bloom, I have seldom seen anything more lovely. Nevertheless, striking as all these numerous hybrids are, I do not think that any of them surpass the magnificence of the type—the real *R. Griffithianum* of nature. Unfortunately it is not hardy everywhere, and it is probably due to that fact that it is not more extensively planted; but here at Ros-trevor at least, it grows remarkably well in a sheltered dell, and it is now from 14 to 15 feet high, and about the same through. We had some difficulty with it at first, as when young it is liable to injury from the effects of our harsh Irish spring; but by stretching a sort of light linen screen over it in the early months of the year it soon began to develop and to become more hardy. It seems now to be thoroughly acclimatised, and for many years it has been altogether unprotected in all weathers; it increases normally, flowers regularly, and then ripens its seed. I am sure it can be established in the milder districts of Ireland, and the attempt to do so is well worth making. The trusses are formed of loose clusters of very large bell-shaped flowers of good substance, looking like great lilies, 6 to 7 inches across, faintly fragrant, and pure white slightly suffused with pink, and delicately tinged with a green shade at the base inside—which seems to be the result of the reflection

of the top of the ovary rather than caused by any green pigment on the petals. The leaves are long and smooth, somewhat glaucous underneath, and the young growth throws out bright red bracts which, being very conspicuous, add colour to the plant when the bloom fades away. It is a magnificent species, and may,

many advantages of its own. The leaves are bright green, and much wrinkled above, and on the underside they are covered with a soft yellow felt, which also clothes the ends of the branchlets. The trusses expand into two or three large white flowers some 4 inches across, of a wonderfully beautiful form and texture,



RHODODENDRON FALCONERI AT OLD CONNA HILL, BRAY.

without exaggeration, be called the Queen of the Rhododendrons.

Competing closely with it as one of nature's choicest productions is *R. Edgeworthii*, which comes from the same parts of the Himalayan region. It also is unfortunately none too hardy, except in favoured localities, but as it does not start into growth so early as its rival it is more easily established. It has less spread and more of an upright habit than *R. Griffithianum*; perhaps its growth is not so graceful, and it will hardly form the same large and striking mass of symmetry and colour. But it has

very slightly touched with pink, which exhale a strong and exquisite perfume. It is a real gem that deserves all the care and attention that can be bestowed upon it. Many hybrids have been raised from it, none of them perhaps as good as the type, but some of them are hardy; their flower is equally large, though scarcely of the same delicate appearance, and most of them retain, in a varying degree, the scent that characterises the parent.

Of Himalayan Rhododendrons blooming before May, *R. niveum*, *R. Thomsoni*, and *R. barbatum* may be mentioned. The first of

these has a curiously compact truss, dark purple in colour; leaves on the underside covered with a white felt which eventually takes a yellow-orange shade; when the growth begins the silky felt covers the young foliage and the new branchlets, and it is probably due to this that it has received its name. The second produces blood-red large bell-shaped flowers, and it is a very desirable species with rather small, very neat round foliage, intensely blue-white underneath. The third is brilliantly red, with dark green leaves, furnished with bristles, which in one form, cover the branchlets as well—not unlike the prickles on some of the Roses.

Among the species that flower in May and later, *R. Roylei* is well worth cultivating, with small trusses of deep red bloom resembling in size, shape, and colour *a* *Lapageria*. It is held to be a variety of *R. cinnabarinum*, whose inflorescence looks as if it were made of wax, yellow and dull red. Somewhat similar in leaf is *R. triflorum*, pale yellow, a handsome and desirable plant. *R. campylocarpum* also produces light yellow flowers, which are campanulate, while the leaves are not very unlike the foliage of *R. Thomsoni* and that of *R. Souliei*. This latter species, recently introduced from China, promises to be a valuable addition to our gardens; it has flowered here, and I was much struck by the lovely shade of rose that was then displayed. Another species not too well known is *R. camelliaeflorum*, white and looking somewhat like a small *Camellia*; it is of Himalayan origin, as is likewise *R. glaucum*, a small bush seldom more than 5 feet high, with many clusters of small rosy purple bell-shaped flowers, and with leaves whose undersides are glaucous white. Of Chinese plants may be noted *R. Fortunei*, bluish tint becoming paler, fragrant—a beautiful shrub; *R. ambiguum*, pale yellow; *R. coombense*, dark purplish red, a very free bloomer; *R. davidsonianum*, white spotted red; *R. micranthum*, covered with masses of small white trusses; and *R. Augustinii*, blue mauve with yellow blotch, a remarkably good plant. *R. yunnanense*, coming from Yunnan, is also smothered in flower, pale mauve, bluish with small red blotch, and with conspicuous anthers. From the Caucasus, *R. Smirnowi* should be noted, leaves covered on the underside with thick white felt, bright rose and showy. A hybrid has been raised from it apparently with the common Rose-bay (*R. ponticum*); its habit and foliage resemble the latter, but the flower is rosy-pink, not purple. *R. Ungerni*, also from the Caucasus, is like *R. Smirnowi* in leaf, but it has the peculiarity of pushing its young growth before the white bloom opens, which

in consequence is too often hidden away and out of sight. *R. Maddeni* and its varieties, *R. calophyllum* and *R. Jenkinsii*, are among the last of the genus to flower, and all are to be highly recommended, white more or less flushed with pink, of very good substance, and well scented. The leaves, especially of *R. calophyllum*, are glistening green as if steeped in oil. Of dwarf-growing species, *R. anthopogon*, sulphur-coloured, and *R. cephalanthum*, pure white, have aromatic leaves, a peculiarity also shared by *R. yanthinum*, a larger shrub. *R. lepidotum* is a beautiful little plant, purple-red saucer-like bloom; it seems to dislike lime intensely in any shape, but when it does not come in contact with it it grows very well and forms a spreading tuft scarcely a foot high. *R. serpyllifolium* from Japan is another small species with tiny leaves and with abundant rosy lilac flowers. While *R. linearifolium*, coming from China, forms a dense spreading mass of evergreen narrow foliage, 6 feet and more through and from 2 to 4 feet high, it produces a curious bloom that looks as if the long linear foliage had turned to a bright red colour.

Some of the above belong to the *Azalea* section of the genus, and also classed in that section is *R. ledifolium* which is, I think, one of the very best. I heartily endorse Mr. Bean's remark that it has not received the notice it deserves as a hardly evergreen.\* It produces large pure white flowers deliciously scented. I found several of these plants in the greenhouse here, but I soon put them outside in a sheltered place, and they have become ever so much more ornamental than they could have been in pots under glass. There is a double variety of the same intense white colour, and with much of the same scent of the type; it seems to be about two weeks earlier than the latter. *R. indicum* and its many varieties are also well worth growing; an evergreen bush of the small red blossomed variety called *R. amenum* is a very beautiful object, and grown near *R. ledifolium* the contrast in the middle of May between the rich carmine colour of the former with the pure white of the latter is most effective; the variety also *R. balsaminæflorum* (often called *Azalea roseiflora*) is a small dwarf plant with large double salmon red bloom. *R. Kämpferi*, classed sometimes as a variety of the same species (though it is not evergreen) has dull orange-red medium-sized flowers, and is not a common plant. There are also many hybrids raised from *R. indicum*, some of which have a most brilliant and really gorgeous

\* "Trees and Shrubs Hardy in the British Isles." II. 365.

colouring. To the Azalea section also belong *R. Schlippenbachii*, pale soft rose, with leaves somewhat like those of a Hazel; *R. Vaseyi*, a more pronounced pink; *R. arborescens*, white tinged with pink, a late bloomer; and *R. occi-*

*R. hirsutum* and *R. punctatum*, which sometimes goes by that name). I have not flowered either of them, though both are here, and I have had the latter for some years; but I mention it because it has the peculiarity of



CORDYLINE AUSTRALIS, MAGNOLIAS, AND BAMBOOS AT OLD CONNA HILL.

dentale, white, and one of the very last to flower, end of June.

Another section of the genus is called Azaleastrum, in which two species are classed, *R. albiflorum*, from British Columbia, and *R. ovatum* from China (the true species of Planchon, and not to be confused with a hybrid of a very different appearance, a cross between

producing its young growth of a bright purple colour, which looks like bloom at a distance.

These notes can hardly be concluded without the mention of two Rhododendrons that deserve special notice, and that will be eventually grouped into a new section by themselves called Keysia. *R. Keysii* from Bhotan, though with nothing very unusual about its foliage, is un-



like its congeners in that the numerous flowers, massed into clusters, are formed of small narrow tubes, yellow in colour and tipped with red, resembling somewhat the inflorescence of *Desfontainia spinosa*, or of some of the South African heaths. It has been known in this country for many years, but it does not seem to be extensively cultivated, and yet it merits attention. *R. spinuliferum* from China, and only recently introduced, has very dark green leaves, somewhat wrinkled on the upper side. The flowers are bright red, but instead of drooping, and of being open at the mouth like a bell, or like a saucer, they are upright, closed at the upper end, and are balloon-shaped, with a tiny aperture through which the stamens protrude. It is an interesting and handsome plant; but few would take it to be a *Rhododendron* at all; probably not from its foliage, and certainly not from its curious bloom. Both *R. Keysii* and *R. spinuliferum* are quite hardy in the more favoured districts of Ireland.

J. R. of B.

### **Rhododendron Loderi.**

It is hardly an exaggeration to say this is the most magnificent *Rhododendron* in cultivation. As seen the other day at Kilmacurragh, in Co. Wicklow, it transcended everything in the wonderful collection of *Rhododendrons* grown there, and which includes all the finest species known. Of vigorous growth the Kilmacurragh plant, although only some eight years planted, is already a large bush, and was carrying numerous large trusses of its incomparable flowers. The individual flowers are of immense size, measuring from five to six inches across, produced six to eight or more in a loose truss. The colour is almost pure white, with the faintest suffusion of pink towards the margin of the corolla. The large handsome leaves, rivalling in size those of a cherry laurel, are bright green above and glaucous below. What this plant will be like in a few years when it has doubled its present size almost passes one's powers of imagination, but the raiser, Sir Edmund Loder, of Leonardslee, has reason to be proud of his success.

B.

### **Rhododendron Augustini.**

This seems likely to become one of the most popular among the smaller leaved species lately introduced from China. Sir John Ross of Bladensburg, in one of his recent delightful articles, alluded to *Rh. intricatum* as one of the few species showing a blue shade early in the year. *Rh. Augustini* is reported to be variable in colour, but all the specimens we

have seen flowering in Ireland are distinctly of a blue shade; as a matter of fact, flowers of *Rh. Augustini* plucked and held beside those of *Rh. intricatum* were quite indistinguishable in shade of colour.

A feature of *Rh. Augustini* is its prolonged flowering season, and though some plants were flowering in early April, others were still in flower in May.

B.

## **Flowers of May.**

COPIOUS rains early in the month, followed by a rapid rise in the temperature, had a marvellous effect on vegetation in general. The change from the hard, parched appearance of the garden, as a result of a spell of east wind, was most welcome, and now in the last week or so of the month the conditions are quite summer-like. Many plants have flowered since the April notes were written, and many are now in the zenith of their beauty. Herbaceous and alpine plants are fast taking the place of flowering trees and shrubs, and soon the beds and borders will eclipse the shrubberies, at least so far as showy flowers are concerned. Bulbous plants were much in evidence in the first half of May, and it is noteworthy how large a place they fill in the garden early in the year. From the time the Snowdrops, Aconites and Crocuses come in January right on into May, bulbs of some kind are flowering.

Many of the Tulip species, that is, the wild Tulips, flowered magnificently this year; some have been mentioned in previous notes. The following have all been very bright and attractive:—*T. Haageri nitens*, orange brown; *T. concinna*, scarlet; *T. strangulata*, yellow flushed red; *T. strangulata primulina*, primrose yellow; *T. saxatilis*, pink, flowered well, both where the bulbs have been planted for years and where they were only planted last autumn; and *T. celsiana*, yellow flushed with red, in habit like *T. sylvestris*, but more slender and graceful.

In addition to these the Cottage and Darwin varieties have surpassed themselves, and blazed in the sunshine. An uncommon plant which has a corm instead of a bulb is *Gladiolus tristis*. It grows and increases freely here at the base of a sunny wall, sending up in May spikes of flowers of a pale yellow hue not in any way "sad," as the specific name would seem to imply; the segments are dotted over with brownish dots, more particularly the upper ones. The Dodecatheons, sometimes called American Cowslips, are charming plants for boggy places. Some writers make a great many species of them, others reduce them to a very



few, but increase the number of varieties. Among the best known is *D. Meadia*, a pale pink N. American species, of which there is a beautiful pure white variety, both grow from 15 in. to 18 in. high, when in flower; *D. Jeffreyi* is a giant, pushing up its flower scapes two feet or more, bearing numerous rose-coloured flowers; it is sometimes reckoned a variety of *D. Meadia*, but horticulturally is very distinct; *D. alpinum* has been made a variety of both *D. Meadia* and *D. Jeffreyi*, but is much smaller in stature than either; it is a delightful little plant, with deep rose-coloured flowers. Others are *D. integrifolium* and *D. radicatum*, both with rose or deep pink flowers, forming lovely clumps in moist places about the rock garden.

Asphodels, white and yellow; Camassias, blue; and Erenuri, white and pink, are now effective with their handsome spikes spearing up amid other plants just developing their leaves.

Irises are now a host in themselves, and with the help of Mr. Dykes' books, popular and scientific, there should be no difficulty in having a representative collection wherever there is space to grow them. At present, the "Intermediates" and the various forms of *I. germanica* are making a fine show, but most wonderful of all have been the *Regelia-cyclus* hybrids which rejoice in the hottest corner of the garden, sheltered from the north by a high wall and from the east by a thick hedge. Not every variety by any means has been a permanent success, but sufficient have succeeded for several years to encourage the belief that with care we might enjoy the weird and wonderful colours of this remarkable group of Irises. Alas, since the outbreak of war, it has been impossible to attend to lifting and re-planting, and some losses have occurred. These *Regelia-cyclus* hybrids are easier to manage than their parents, of which *I. susiana*, representing the *Onco-cyclus* group, is the only species which succeeds here, and of the *Regelia* group, *I. Korolkowi* is one of the best doers, but yet cannot be relied on. Of the hybrids, *Hera*, bronzy red and blue; *Hecate*, lilac rose, brown on a grey ground, and *Ismene*, white veined Violet are typical, though numerous others, of which the names are doubtful, flowered well.

Among shrubs that have been striking, one must mention *Veronica canterburyensis*, with pure white flowers, at once claiming attention. There is hardly any shrub with flowers of a purer white than this, but unfortunately here at least the plant is a bad doer wherever planted. Although not often killed outright in winter, as some species are, it nevertheless

always has a sickly look, due to the yellow colour of the leaves; perhaps there is some soil difficulty, but the result is the same, whether planted in sun or shade, in border or rock garden. *Veronica Lavaudiana* is another charming enigma, doing best here in shade, but flourishing in other gardens in full sun. When doing well it is a most delightful plant, forming a low spreading mass, bearing corymbs of white, pink-tinted flowers. *Veronica Fairfieldii*, said to be a hybrid between *V. Lavaudiana* and *V. Hulkeana*, is rather more amenable to cultivation, and inherits the dwarfer habit of the former, with the spiked inflorescence of the latter parent. The colour of the flowers approximates that of *V. Hulkeana*, but the spikes are shorter. *V. Hulkeana* is perhaps the best known of the three, and is a glorious plant when in full flower, the colour being a pleasant shade pale lilac. It enjoys a sunny sheltered position, but after a few years gets "leggy," and sometimes dies off suddenly. Nevertheless, it is a plant well worth keeping a stock of. Cuttings root well, and seeds are sometimes produced in favourable seasons.

Of Brooms that have flowered since May came in *Cytisus glabrescens* deserves mention. Dwarf in habit, forming a compact low bush, it is decidedly attractive when covered with its clear yellow flowers. *Cytisus monspessulanus* is less hardy here, but flourishes when allowed to grow freely against a wall, only being pruned sufficiently to prevent it overgrowing neighbouring plants. On the south side of Dublin, and towards Kingstown and Bray, I recently saw great bushes of it flowering in the open as freely as the Gorse by the wayside. *Cytisus Dallimorei*, in many ways the most remarkable of all Brooms, is now covered with its rosy-pink and crimson flowers, truly a beautiful shrub which should be planted freely.

The purple Broom *C. purpureus*, and its beautiful white variety, are likewise flowering freely now, and make a pleasant show on the rockery, where, being dwarf, they are suitably placed.

Rhododendrons continue to give a good account of themselves—notably *Rh. Loderi* Patience, a notable hybrid with immense trusses of large white flowers, suffused pink; *Rh. Loder's* White bears compact trusses of white flowers, though the buds show a deep pink shade; *Rh. Fortunei* has been attractive, bearing bluish white fragrant flowers, while flowering a little later we had the closely allied *Rh. decorum*.

*Rosa Willmottiae* flowered early in the month, bearing rose-pink flowers of a rather washy



RHODODENDRON GRIFFITHIANUM AT ROSTREVOR  
HOUSE, CO. DOWN.

hue. The plant is a strong grower, distinct in habit, but inferior as a garden plant to many others of Chinese origin.

The old and well-known *Olearia stellulata*, often called *O. Gummiana*, is still one of the best and most attractive. The pure white flower heads, borne in great profusion, are at once noticeable from a distance. A little tender here, it appreciates a sunny sheltered position in the shrubbery, and succeeds perfectly against a wall, though this is not essential.

Among *Ceanothuses*, *C. Russellianus* is conspicuous. At present (21st May) it is a mass of lovely blue. It closely resembles *C. Veitchianus*, of which it is possibly a seedling variety, but is more upright in habit, and suffered less in the winter of 1916-17 than the latter, which is also flowering well now.

The Judas Tree, *Cercis Siliquastrum*, remarkable from its habit of producing flowers from quite old woody branches, is worth more attention than it usually gets outside botanic gardens. When flowering freely it is a most interesting and beautiful shrub, and is now bearing quantities of pink flowers. It likes light, well drained soil, and very little pruning. There is hardly a more beautiful May flowering shrub than *Rubus deliciosus* from the Rocky Mountains. The flowers are pure white, produced on young wood of the last year's growth, and so freely as to be conspicuous from some distance away.

*Diervillas* and *Deutzias* are coming on in succession, and for some time to come will be in good form. *Pyrus ic-nensis flore pleno* is a remarkable Crab of American origin, and sometimes called Bechtel's variety. Flowering towards the end of May it makes a fine succession to the earlier species. The flowers are of large size, over 2 inches in width, semi-double of a delicate pink hue, and pleasantly scented, thus combining to make *P. ic-nensis fl. pl.* indispensable to all lovers of flowering trees.

## The *Æthionemas*.

THESE delightful alpinas, which belong to the same family as the Wallflower, are among the choicest and most beautiful of rock garden plants during May. They are not difficult to grow if given well-drained gritty soil and a sunny position. A sharp slope is desirable to ensure thorough drainage, as nothing is so fatal to them as sour soil, consequently a vertical chink forms an ideal position. Few plants are better adapted for a wall garden facing the sun, and in such a position many will grow and flourish for years. Propagation is best effected by means of seeds which should be watched carefully. In some cases cuttings of the young shoots taken off with a "heel" root well in sandy soil in a shaded frame, but every effort should be made to obtain seeds. The latter may be sown when collected or kept till spring. In either case the seedlings should be pricked out as soon as they can be handled, as no plants are more impatient of root disturbance. They are best picked out singly into "thumb" pots, but may be put out three into a 3-inch pot, being subsequently potted off singly before becoming pot-bound. The plants must be kept in pots until wanted for permanent planting, and the smaller the pots the better, as then it is easier to get them into narrow chinks and crannies. In districts where lime is absent some finely broken mortar

rubble mixed in the soil is a decided advantage. After flowering it is advisable to shorten back the shoots, leaving only sufficient to produce seeds. There are many species known to botanists and gardeners, but a few are rare and cannot be called common. The following, however, are fairly well known in cultivation, and well repay a little attention. *Æthionema armenum* is in the way of the better known *A. pulchellum*, but with much larger flowers of a delightful soft pink colour. *A. armenum* is a dwarf compact grower with small narrow pointed leaves, and heads of bright pink flowers.

*A. cordatum* is one of the most distinct, having good heads of sulphur yellow flowers and short, broad thick leaves distinct from any of the others. Left to itself it forms a straggling untidy plant, the old stems becoming woody, but if hard cut back after flowering compact specimens are formed, flowering freely every May.

*A. gracile* is not so well known as some, but is a most pleasing species forming slender twiggy branches clothed with narrow glaucous leaves, and bearing heads of deep pink flowers. *A. grandiflorum* is by many considered the best of the lot. A vigorous grower forming a stout woody base from which numerous shoots arise each spring. The leaves at first bright green later become glaucous, while the flowers and flower heads are the largest of all, the colour a beautiful rosy pink.

*A. iberideum* is distinct and beautiful forming a low densely twiggy bush clothed with small glaucous leaves, and bearing heads of pure white flowers. *A. oppositifolium*, sometimes called *Eumonia*, is an uncommon-looking species, not very showy, but interesting on account of its unusual appearance. It forms a close little tuft of short stems clothed with small rather broad leaves, and bears white flowers rather sparsely. Not easy to keep, it lives fairly well for a time in the moraine or in a vertical crevice. *A. persicum* is an attractive species forming compact little bushes of wiry stems clothed with glaucous leaves and terminated by heads of rosy lilac flowers.

*A. pulchellum* is one of the best known and one of the most enduring. The leaves are very glaucous and the stems are terminated by long dense heads of pale rose-coloured flowers.

*A. schistosum* is effective with pink flowers and rather twiggy stems which spread considerably, forming an effective mass when doing well. It is apt to die off suddenly after flowering, and also suffers occasionally in winter. A sunny, well-drained position is essential, and a stock of young plants should be always kept on reserve.

B.

## Notes.

### Gladíolus Tristis.

A NATIVE of sunny Natal, it is not quite clear why this charming species should have been named *tristis* (sad) for there is nothing very gloomy or sad-looking about it. The narrow leaves are summited in early May by many spikes of pretty pale yellow flowers, the segments being dotted with lines of reddish brown dots, not, however, conspicuous enough to mar the prevailing tone of yellow. At the base of a sunny wall it has lived and increased for years, never failing to produce abundance of flowers annually. Being produced on long stems, 2 feet or more in length, they are admirably adapted for cutting, and have the additional attraction of being scented.

### Aubrietias.

COMMONLY called "Rock Cress," *Aubretia deltoidea* in the hands of the florist has proved one of the most valuable plants for the rock garden. Where effective masses of colour are desired, rather than a large collection of rare



AUBRIETIAS AS WATERSIDE PLANTS

plants, Aubrietias are indispensable. Apparently all the numerous colour varieties now in cultivation are descended from *A. deltoidea*, and a brilliant display they make during the latter end of April and through May. Moreover, few plants are more accommodating in their cultural requirements. They will thrive in sun or shade, and are by no means fastidious regarding soil, but prefer good drainage. Propagation of the various varieties is best effected by cuttings which root readily in sandy soil under handlights, or in a close cold frame. When the plants pass out of flower towards the end of May, they should be cut over with a pair of sheep shears to encourage new growth for next year's flowering, and to keep the clumps within bounds. The young growths thus produced make good cuttings in July and August, simply pulling them off the old stems and trimming the ends slightly, when they may be forthwith dibbled into the cutting bed. One good watering will suffice till roots are formed if they are kept shaded. When rooted, admit air freely, and when growing well either pot up for future use or line out into beds to lift as required.

There are many varieties, of which the following is but a selection:—*Dr. Mules*, rich violet purple, a glorious variety, in the writer's opinion still unsurpassed; *P. Barr*, striking reddish purple, and most effective; *Lavender* with large lavender blue flowers of rare beauty; *Perkinsoni*, fine violet blue large flowers; *Hendersoni*, an old variety of much merit for spring bedding producing dark purple flowers; *Sour. de W. Ingram*, a good variety with rosy violet flowers; *Leichtlini*, with crimson flowers; *Fire King*, a form of the last, but with more intense crimson-coloured flowers; *Moerheimii*, beautiful soft rose-coloured flowers; *Mrs. Lloyd Edwards*, fine bright purple flowers of large size; *Lissadell Pink*, a good rosy pink form; and *Bridesmaid*, blush pink. Thus, it will be seen, there is considerable variety in colour, and a beautiful display is possible when Aubrietias are used in harmony with Alyssums, Arabis, and many other spring flowers blooming at the same time.

ROCK CRESS.

### Intermediate Irises.

THIS is a comparatively new race of garden Irises raised within the last twenty years or so, but only becoming known within the last ten years or less. The first steps taken in the raising of these hybrids seem to have been taken by Mr. W. J. Caparne, of Guernsey, who crossed the dwarf early flowering *pumilas*,

*chameiris*, &c., with the later flowering taller growing varieties included under the collective name *Germanica*. There is now a score or more of these hybrids in commerce, and they are among the most valuable of May flowering border plants. They vary somewhat in stature, some being comparatively dwarf, while others approach the "*Germanicas*" in height, but their greatest value lies in their flowering just when the dwarfs are going over, and before the majority of the taller bearded Irises come in. Ordinary well cultivated garden soil and a sunny position is all they require, but like the other tall bearded rhizomatous Irises, they will not tolerate stagnant moisture, and prefer lime in the soil. Although valuable in the herbaceous border, where they should not be overgrown in summer by coarser plants, there is no doubt that the intermediates, like others of their kind, flourish best, and show to greatest advantage when grown in beds or borders by themselves. The Iris garden was becoming fashionable before the war, and will yet come fully into its own. There the "*intermediates*" would have a fitting place, and would give a good account of themselves, "*between times*." The following are representative, and can be purchased cheaply:—*Canari*, pale yellow; *Fritzjof*, standards light blue, falls dark purple blue; *Ivorine*, ivory white, a fine large flowered variety; *La Charmante*, white with blue at the base of the standards, and slightly suffusing the falls; *Walhalla*, standards light blue, falls fine purple violet, flowers large and handsome; *Ingeborg*, a pure white of great beauty, and *Sarah*, a comparatively dwarf hybrid with lovely pearl white flowers. A number of others are to be found in catalogues, which may be consulted by those interested. Messrs. Wallace, of Colchester, specialise in Irises, and issue a special Iris catalogue.

GROWER.

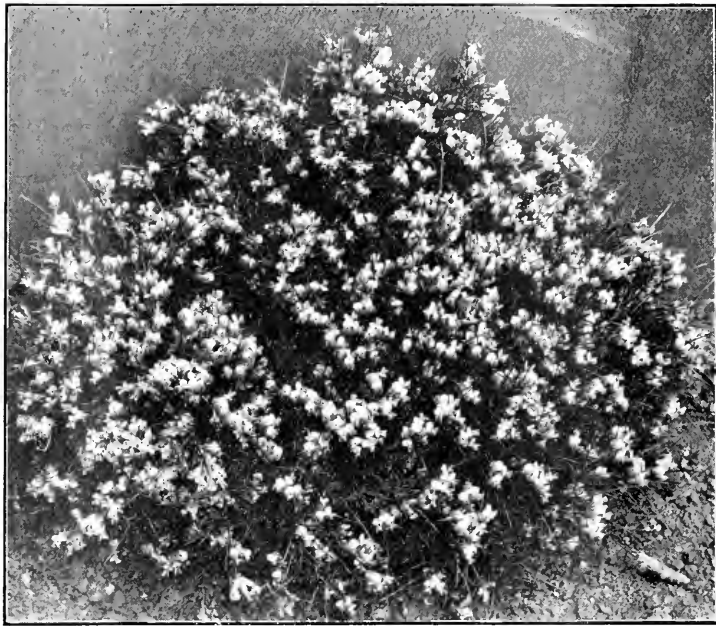
### Tulips.

IN common with many other kinds of plants, Tulips this year are surpassing themselves in vigour and beauty. Not for several years back have the Cottage and Darwin Tulips been so brilliant and gay. Masses of them shooting up among the bush green-foliage of the herbaceous border are an inspiring and cheerful sight. It matters not whether they have been in position for years or only planted in the autumn, the general improvement on recent years is most marked. That beautiful Tulip *Clara Butt* is now, in the middle of May, a glorious sight, a mass of lovely salmon pink; *Pride of Haarlem*, cerise, is also fine; *Suzon*, pale rose;

and *La Candeur*, white shaded blush are, among many others, very beautiful. Among Cottage Tulips, *Elegans*, *Fulgens*, and *macrospila* of red shades are handsome, while *Mauriana* and *Inglescombe Scarlet* are good of that colour; *La Merveille* is a grand old orange variety; while of yellows, *Mrs. Moon* and *Mrs. Robertson* are superb. There are many others too numerous to mention at present. It would be interesting to know the reason for the wonderful floriferousness of this year. Early bulbs of all kinds, trees and shrubs have been masses

flowers are blue and quite attractive, produced two or three together on quite short stalks.

In the absence of seeds propagation can be effected by layering. The best way is to select a good strong well-branched pot plant, and drop it pot and all into another pot several sizes larger. Fill the space between the pots with sharp silver sand, and pile it up well among the branches. This is best done in spring, when growth is commencing, and if the sand is kept moist the young shoots root into it freely. Towards the end of summer lift out



ERINACEA PUNGENS.

of bloom quite exceptional in abundance. Was it the long rest during the winter and late spring of 1916-17?

DUBLIN BAY.

### The Hedgehog Broom.

ERINACEA PUNGENS.

A NATIVE of Spain and W. Africa this spiny little shrub of the Pea family insists on the sunniest possible position it can get and well-drained sandy soil. The short, stiff branches are all sharp-pointed and practically leafless, except when very young, when a few small leaves are produced, and soon fall off. Flowers are only produced when the plant is thoroughly roasted in hot sun, and occasionally a few seeds are produced in favourable localities. The

the pot and shake out the sand, when the rooted branches may be removed and potted up separately in sandy soil. Kept close for a few days they soon become established, and can be transferred to a sunny fissure in the rock garden, or elsewhere at will.

B.

### Onion Mildew.

THIS pest seems to have become more serious than the Onion Fly, which attacks the bulb of the Onion, causing a yellowing of the leaves and subsequent decay.

The mildew first appears on the leaves generally towards the top, and spreads rapidly if not checked. It is frequently said to attack Onions which have been sown outside in spring more readily than those transplanted

from boxes. This year it has already made its appearance on Potato Onions planted very early in the year, and as these are very generally grown on allotments in close proximity to the spring sown crop there is great danger of an epidemic. Badly infected plants should be pulled up and burned at once. The disease is recognised by the leaves of the Onions having a mouldy appearance, as if covered by dust. When the attack has not progressed too far the easiest remedy is to dust over the plants with a mixture of lime and sulphur when the leaves are moist with dew in the evening or early morning. Use two parts of lime to one of sulphur. This adheres to the moist leaves and smothers the fungus.

As Onions are a most important crop Plot-holders should not neglect this simple precaution.

GROWER.

### The Pea Weevil.

COMPLAINTS have reached us of young Pea plants being stunted, the leaves showing signs of being eaten by some insect. This is not uncommon when the weather conditions are unfavourable to quick growth, and the insect which adds to the struggle of the Pea against adversity is the Pea Weevil. It begins by nibbling the edge of the leaf and gradually eats into the centre. The weevils are difficult to detect, as they drop to the ground when disturbed in the least, and may easily be missed. Every effort should be made to encourage rapid growth by applying liquid manure, or a light dusting of some quick-acting fertiliser, as Sulphate of Ammonia, alongside the rows. Dust the plants over with soot or lime when moist after rain or when wet with dew. As with all other vegetable crops, keep the hoe going between the rows and as close to the plants as possible without injuring them. This has a twofold effect in preventing egg-laying near the plants and in maintaining a loose surface, thereby conserving the moisture in the soil and stimulating growth.

### Green Fly on Roses.

THE season has started rather disastrously for Roses as already the young shoots and flower buds are suffering from the ravages of the dreaded fly. There is only one course, and that is to initiate an attack as soon as the enemy can be seen. If taken in hand early there is not much difficulty in getting rid of green fly, and the first attack is generally the worst. Syringing with a solution of Quassia Extract is the quickest and best means of rid-

ding the bushes of this pest; but those who cannot afford to purchase Quassia may use soap suds instead. In country districts it is a common practice to throw the soapy water over the Rose bushes on washing day, and healthy Roses are a feature of many a cottage garden. Failing the ordinary product of washing, dissolve soft soap in water and apply forcibly through a syringe: about two ounces of soap to a gallon of water should be sufficient. Dissolve in a little hot water first, and make up to the required quantity with cold water. If the first application is not sufficient apply a second which will have the desired effect.

ROSA.

## The Prevention of Potato Disease.

THE common Potato disease known as "blight" is caused by a minute form of vegetable life—the parasitic fungus *Phytophthora infestans*. It was first noticed in Europe and America about 1840, and caused the almost complete failure of the Irish Potato crop in 1845 and 1846. From that date it has always been present in the British Isles, varying in intensity. In a wet summer losses of more than half the crop may be caused where precautions are not taken to prevent it. Fortunately, methods are now available by which the crop may be practically insured against loss from this scourge.

The first visible sign of disease to the naked eye is the appearance on the leaves of dark brown or blackish spots of irregular size and shape on the underside of which a delicate white mould may be seen, especially round the margin of the diseased areas, and ultimately the whole of the foliage and sometimes the stems may become blackened.

No variety of Potato has yet proved absolutely disease resisting, though the foliage of some varieties is less favourable to its development than others, and amongst the varieties at present in field cultivation the Evergood, Royal Kidney, and Queen Mary are the best resisters, but even these varieties prove most profitable when sprayed.

THE VALUE OF SPRAYING.—The solution of copper sulphate as used for destroying charlock would destroy the blight fungus, but would also injure the Potato foliage. When, however, copper sulphate is combined with lime or washing soda a fungicide is obtained which is both harmless to the Potato foliage and destructive to the fungus, and it has been proved in numberless fields in this country since 1890 that the more effectively the foliage is covered with either of these mixtures the more thoroughly is an outbreak of blight prevented, and many of the largest and wealthiest growers of Potatoes in the United Kingdom attribute their prosperity to the early adoption and thorough application of the principle of machine-spraying to the Potato crop.

The cost of spraying in an average season is amply repaid by the greater yield of sound tubers. It is generally estimated that taking all years

together the average yearly increase of sound tubers in the main crop varieties is between two and three tons per acre, or from 20 to 30 per cent.

The custom of spraying with copper sulphate solutions having originated in France the compound of copper sulphate and lime is known as "Bordeaux mixture," and that of copper sulphate and washing soda as "Burgundy mixture": both are thoroughly efficient fungicides.

The common practice adopted on all up-to-date Potato farms is to spray as early as possible; that is, as soon as possible after the haulm has recovered from the final earthing up of the Potato ridges. Then to spray again, and yet again, if the weather and growth permits, the third spraying being as late as some time in August with the main crop varieties. The apparent injury done to the haulm and soil by the passage of the horses and machine wheels is more than recompensed by the additional crop secured by this treatment.

The continual practice of spraying has gradually brought an important feature to light, and one which, owing to the advance in the price of chemicals, is of importance, and that is that solution known as one per cent. solution, namely, one pound of copper sulphate to 10 gallons of water (equal to 100 lb. water), are practically as effective as the two per cent. solutions commonly used, but this specially small quantity of sulphate of copper must be dissolved even more thoroughly than ever, and is another argument to use only the best and most easily dissolved preparation.

**SOME WARNINGS.**—As there are other diseases of the Potato plant besides that known as the "blight" an illustration is given of the preliminary signs of "blight" as shown on the Potato leaf taken from the illustration sent with their pamphlet on "Potato Disease," by the Food Production Department of the Board of Agriculture and Fisheries, and it should be pointed out that spraying is not a preventive of other Potato diseases.

Spraying should never be done on mornings in summer when frost is present, nor late in the afternoon when a frosty night is threatened, nor in a hot period when the Potato plant is stunted and suffering from drought.

It is not advisable to spray plants on plots situated in an atmosphere containing acid fumes, or those attacked by aphids, and it is necessary to be very careful to use the right proportions of the ingredients in making your own mixture, and to use only the purest obtainable.

As one who carried out some of the earliest field experiments in this country on the Potato crop with the Knapsack sprayer for the Royal Agricultural Society of England, and who subsequently used the very first horse-spraying machine (made by Mr. G. F. Strawson) on some hundreds of acres of Potatoes, and later conducted the first field experiments against charlock, the writer cannot too strongly advise those who do not purchase some well-known standard proprietary mixture to purchase for their own mixing only the very purest and best raw materials, whether sulphate of copper, lime, or soda. In all one's experience of spraying, and in the early days we had to do our own mixing of copper sulphate with lime—soda was not used then—there was only one satisfactory source of lime, and that was from Buxton, and to attempt to use other lime meant trouble both with the solution and the machine. Again

there were delays from all sources, difficulties in getting ordinary commercial sulphate of copper to dissolve, and also to obtain the right proportion of lime to soluble sulphate of copper—a most important point on which the success or failure of the operation of spraying entirely depends; again, the sulphate frequently contains iron sulphate, which may prove injurious, and is lumpy, whereas it should be in the form of a powder and thus dissolve readily in cold water.

Our enterprising manufacturers are fully alive to the necessity of the times and acquainted with the best treatments suitable to all crops in this country, and as their businesses are dependent upon good results their recommendation and goods may be relied upon with every confidence. As these firms specialise in sprays, they use only the best and most soluble sulphate of copper and washing soda, or the purest and finest lime, and in all cases they give directions as to the proportions and use of their goods.

**SPECIAL SPRAYING MACHINERY.**—The requirements of a first-class Potato spraying machine, whether in the form of a Knapsack or horse-driven, are to produce the finest spray with the greatest force so as to cover the foliage most searchingly with a fine spray which will dry quickest upon the surface of the leaf and not run off and waste or wash off easily. This means that the two most essential points in a machine are a strong pump and a suitable nozzle, and in the case of the Bordeaux mixture, that is, copper sulphate and lime, there should be a good agitator to keep the lime in suspension.

The finer the spray the more it economises the quantity of fluid required to spray, and the more effectively is the work done. This should prove conclusively that the best machine is almost invariably the cheapest in the long run. The spray should be directed upwards from a low level, so as to catch the underside of the leaf, where it is better protected from the rain, but as both surfaces of the leaf are liable to infection the upper surface should also receive its share, and this occurs when a good sprayer is used.

Remember it is an expensive mistake to apply too much fluid; all that is required is that after spraying the thinnest possible covering of the fungicide should be spread evenly on the leaves, and this is best done by maintaining a high pressure in the spraying machine.

The hugely increased acreage of Potatoes and the vital necessity of producing a large crop of sound tubers, which by Government action are assured a good price, have brought a multitude of new growers into the business who have little or no equipment for spraying, and the demand upon the makers of sprays and sprayers is, even at this early date, a noteworthy feature; presently it will be almost overwhelming. The Food Production Department state that "It is essential that all those who are not already provided with Knapsack spraying machines shall place their orders without delay, that the prices of copper sulphate in 1918 will be controlled in such a way that purchasers ordering for early delivery in the year will have a distinct advantage over those ordering later, and that there will be a shortage of soda crystals in the coming season. Hence it is absolutely essential that early steps be taken to ensure the necessary supply for spraying purposes."—*Modern Farming*, May, 1918.



## Allotment Observations.

By J. HURLEY, Superintendent, Corporation of Dublin Land Cultivation Committee.

THE following table may prove interesting to readers of IRISH GARDENING:—

### CO. BOROUGH OF DUBLIN.

Area under allotments in 1917	= 150 acres
No. of Allotments provided in 1917	= 1,191, each $\frac{1}{8}$ of an acre
Area under allotments in 1918	= 410 acres
No. of allotments provided in 1918	= 2,800, each $\frac{1}{8}$ of an acre
Rent per statute acre paid by local authority for land acquired by agreement for allotments	= from £1 to £5
Rent paid by allotment holders	= 16/8 per $\frac{1}{8}$ of an acre
	Allotment

From the above table, which only refers to the Corporation Land Cultivation Committee, it will be seen that in less than one year the number of additional acres under allotments was 260, or an increase of 1,606 allotments over the previous year. Though this was an appreciable increase it is believed that if land were available to give a plot to each applicant the number of acres would have been increased by 400.

As time goes on it is interesting to note that the land is being cropped with vegetables which will become fit for use at different seasons of the year. The great fault which was to be seen on nearly all plots last year was that of making too large a sowing of seeds such as Cabbage, Lettuce, White Turnips, &c., at one time. This feature is absent this year.

In very many cases no note is kept by the plot-holder of the date on which seed is sown: this is a mistake. The date (and variety) on which seed is sown should be carefully noted, so that when a crop is too late or too early, or the variety not a suitable one, the mistake will not be repeated the following year.

No plot-holder should be allowed by his neighbouring plot-holders to leave flowering Cabbages on his plot; they are an attraction for butterflies, the caterpillar of which we are all so familiar with being so mischievous to the different crops. Once a crop of Cabbages is attacked by caterpillars it is difficult to prevent it being totally devoured.

Nitrate of soda is now being used on many areas, but a word of advice to the amateur may not be out of place. It has been proved that small dressings applied often during the growing period are much more beneficial than a large or heavy dressing applied at one time. The golden rule, when applying nitrate of soda, should not be forgotten: "A little and often." An application after thinning acts as a great stimulant to plants when evenly scattered over the ground and lightly scuffed in.

The spraying of the Potato crop is being carried out by the Irish Plot-holders' Union this year, and arrangements are already being made to start spraying as early in June as possible. The present estimate of plots to be sprayed is 1,000 or 125 statute acres. This is rather a big undertaking, and the members of the Irish Plot-holders' Union are to be congratulated on their courage, this being the first year of the Union's existence.

## Reviews.

### Grow Your Own Vegetables.\*

THIS is the most ambitious volume on this subject that has reached us so far; and it is surely a new departure for a Doctor of Science to devote time to writing a book on elementary vegetable culture. We welcome the departure, however, and feel that horticulture, even on an allotment, is now taking its proper place in the forefront of important productive industries. We do not pretend to have found anything new in the book concerning the essential operations in connection with the soil or subsequent cultivation of the crops, but there is plenty of sound advice on both given in simple language, such as an educated man always uses, and for the novice for whom the book is intended, there are many useful hints which indeed might not occur to the professional gardener better equipped in knowledge and material. Many useful illustrations are given, helping greatly to make clear the text.

There are some points, however, we would like to comment on. The old advice of throwing up the soil loosely in winter is not applicable to all soils, least of all to those of a heavy nature with a wet subsoil. Anyone can prove for himself that frost will penetrate farther into firm soil than into that which has been loosened by digging, the reason being that air gets in between the loose particles and excludes the frost, whereas in soil which is consolidated frost is able to follow the moisture. This can be tested by examining a plot which has been dug before a sharp frost and comparing it with an undug plot.

There is sound advice given regarding waterings, but the value of hoeing is insufficiently explained. Hoeing not only kills weeds, but keeps the cracks, which form in soil during spells of drought, filled up, thereby preventing the escape of moisture and encouraging the rise of water from below through the finer interstices.

Manures are very well dealt with, and the value of lime explained.

We are inclined to think Dr. Johnson is too sanguine about Broccoli, a most difficult crop to manage and one which gives many a gardener much trouble; it is not what can be called a safe crop.

With regard to the earthing-up of Potatoes, we agree the ridge should not be left hollow on the top, but at the same time it should be broad rather than steep, and for this reason 20 inches apart is too little for the rows of even early Potatoes, 24 inches should be the minimum.

The body of the work is devoted to chapters on all the principal vegetable crops, and a useful calendar of "Vegetable Month by Month" is given. Diseases and pests are dealt with briefly and to the point.

We commend Dr. Johnson's book to the notice of our readers. Well bound, clearly printed and copiously illustrated, it ought to appeal to the well-to-do amateur, though we fear that at the "novel" price of six shillings it will be rather beyond the average working man.

\* "Grow Your Own Vegetables." By STANLEY C. JOHNSON, D.Sc., F.R.E.S. Published by Messrs. T. Fisher Unwin, Ltd., 1 Adelphi Terrace, London, W.C. 2. Price 6/- net.



## The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### THE VEGETABLE GARDEN.

THE welcome showers of rain we had during the earlier part of May, with fairly warm weather afterwards, has greatly benefited all vegetable crops, especially young seedlings, newly planted Cabbage, Cauliflowers and Onions.

**PEAS.**—About the middle and end of the month, sow as many rows as possible of different varieties of Peas: by the time those are podding growth will be slow, and by carefully going over the different rows and pulling only the full pods nice dishes of Peas will be had until the frost destroys them. Give frequent waterings of liquid manure to those now swelling their pods.

**FRENCH BEANS.**—Sow freely now Canadian Wonder, Negro Long-pod or any other favourite variety. Draw the soil up to early sown sorts. It will keep the plants from getting blown about. Keep the Beans constantly pulled off when they come to the required size, even though they are not required for immediate use. If they are allowed to ripen their seed the plants will stop bearing.

**POTATOES.**—The earlier sorts will now be ready for lifting: as the ground is cleared fork it over and plant with Cabbage, Broccoli or any other vegetable the ground may be required for. Leave a row or two in the ground to mature for seed.

**LEeks.**—Plant Leeks on deeply dug, well manured ground in rows 12 inches apart and 6 to 8 inches between the plants. Use a long thick dibber, and make the hole about 12 inches deep; drop the plant in, but put no earth in; leave the hole quite open. Go over them afterwards, and with a watering-can pour a little water into each hole: this will wash sufficient earth about the roots to give them a start.

**CELERY.**—Plant out the main crop of Celery in trenches 18 inches wide with a space of 3 feet between the trenches. Plant two lines in each trench, leaving the plants 1 foot apart. It is necessary that Celery should have a good supply of manure; at least three or four inches deep of manure should be placed in the bottom of the trench, then put back some of the best soil taken out of the trench and mix well with the manure. Give a good watering after planting. Celery at no stage of its growth should be allowed to want for water.

**ASPARAGUS.**—About the middle of the month cutting should cease; if sufficient growths are not left the crowns will not properly mature for next season's crop. Clean all weeds off the beds and give a soaking of liquid manure or dust with artificial manure during showery weather.

Plant out spring-sown Cabbages as they become ready, also late Cauliflowers and autumn Broccoli. In fact a start can be made to plant out all Brassicas as soon as ground can be got ready for them. Continue to sow such seeds as Turnip, Lettuce, Radish and Shorthorn Carrot. Remove frames or other protection from Vegetable Marrows; plant out Tomatoes against a south wall, keep all side growths rubbed out, and water carefully.

#### THE FRUIT GARDEN.

The principal work in the fruit garden this month will be tying in shoots on wall trees. Stop young growth where necessary by pinching out the points. Destroy aphids wherever it makes its appearance.

**STRAWBERRIES.**—If time will permit, a good soaking of clear water will greatly benefit the crop if the ground is dry.

Tie back young shoots on Cherry trees and securely net them. Syringe Peach trees on walls at least once each day; pick off all curled leaves and burn them. There is great diversity of opinion amongst gardeners as to the merits or otherwise of summer pruning fruit trees. Some go so far as to say there is no advantage to be gained by it: others do not prune until the end of July. When pruning is deferred to so late a date, I cannot see there is much use in doing it at all, as growth is completed by that time and the wood is getting hard. In my opinion, if summer pruning is done by the end of June both the tree and the crop of fruit it is bearing will greatly benefit by it, as well as laying the foundation for a good crop next season. It is a mistake to cut the shoots off with a secateur, simply place the blade of your knife above the fourth or fifth buds from the base, and with your thumb press the shoot against it, when it will break clean off. The two foremost buds will break again, but the others will only plump up a little. The fruit on the trees will have more air and light, and also give the trees a tidy appearance. May has been unusually free from frosts and hail showers, and fruit is setting well.

#### THE FLOWER GARDEN.

June is a busy month in the flower garden; bedding-out will occupy a good deal of time. In most gardens very little summer bedding will be done this year, vegetables taking the place of flowers, and rightly so, as every extra pound of vegetables mean more food for the people; but every one who has a garden will grow at least a few of their favourite flowers.

Stocks and Antirrhinums will be already in their flowering quarters. Begonias, Heliotropes and the more tender subjects can now be planted out. Attend to staking and tying up of tall-growing plants in herbaceous borders; do not tie them up in bundles, stake them out loosely, using stakes a little shorter than the plants are expected to grow. Dahlias require only one stout stake driven well into the ground and each growth tied separately to it; thin out the growths to avoid overcrowding. Roses and other climbing plants on walls and pillars will require tying in to prevent the young growths getting broken. Disbud Hybrid Perpetual and Hybrid Tea Roses, pull off any suckers as soon as they make their appearance. Stake Border Carnations and keep them free from weeds.

## Midland and Northern Counties.

By E. RUTHERFORD, Late Gardener to C. W. DUNBAR BULLER, Esq., D.L., Woburn, Donaghadee.

#### THE KITCHEN GARDEN.

**CELERY.**—The planting of Celery, for the main crop, should be completed as soon as possible. If the soil is dry, soak the trenches previous to

planting. If the earlier plants require watering let them have a good soaking to keep them growing freely.

**THINNING CROPS.**—The work of thinning should be completed while the soil is moist. Examine all seedlings frequently, and dust them with soot or lime to protect from slugs.

**PEAS.**—In some gardens it is not too late to sow mid-season Peas. Alderman or a variety of the same type should be chosen. Sow in deeply-cultivated soil.

**LEEKs.**—This wholesome vegetable well repays the time and trouble bestowed on its cultivation. To produce large, well-blanchd Leeks the subsequent treatment may be identical with that of Celery. Choose a cool site. Shallow trenches should be prepared. A liberal quantity of rich manure should be worked into the soil. Form wide, deep holes with the aid of a dibble, about 6 inches apart in the row and 12 inches between the rows. Into each drop a plant. The foliage should not be buried, and no fixing is required beyond watering if the weather is dry at the time of planting.

**BEANS, KIDNEY,** may be sown until about the middle of the month. These will furnish a supply of pods until the frost cuts them down.

**PARSLEY.**—Old plantations should be carefully picked over and the seed stems removed while young. As soon as the spring-sown plants are of sufficient size, the old plants should be dug out and the ground prepared for another crop.

**BROCCOLI.**—Towards the end of the month Broccoli may be planted out. Let the ground be well prepared by giving a sufficient quantity of manure, and let it be deeply dug. Two feet is a good average distance each way between the plants. In planting, take care not to bury the hearts of the plants, and firm well. If the weather be dry, give a good watering, and repeat until the plants take hold of the ground.

**BORECOLE AND SAVOYS** should be planted out according as the ground becomes vacant. Brussels Sprouts should also be planted out.

**VEGETABLE MARROWS** may now be planted on prepared sites. Any spare plants may be grown on old rubbish heaps or other unsightly places. Make large holes, and fill with manure; place on the manure some soil on which to plant the Marrows.

**SPINACH.**—In very dry weather the seed is best sown as follows:—Draw the drills about 12 inches apart, water the soil through a rose, sow the seed, cover, and water the surface through a coarse rose. In hot weather the plants run to flower so soon that it is better to make sowings thicker than usual, as the leaves grow so small.

**ASPARAGUS.**—Beds that were planted this spring will need attention, as young Asparagus shoots require staking to prevent them being damaged by winds. Established beds must be kept clear of weeds and the surface carefully stirred with the hoe. In exposed places support the shoots with stakes.

**BEEt.**—This is ready for thinning: the seedlings should be thinned to one in each group. Stir the soil between the rows with the hoe.

**TURNIPS.**—Make a sowing of Turnips, choosing a cool situation during the hottest part of the summer. As soon as the plants are large enough thin them before becoming drawn.

**LETTUCE.**—Make sowings in succession. Radishes should be grown in shaded situations.

Mustard and Cress may be sown in a shady corner.

**POTATOES.**—Continue to earth-up the maincrop Potatoes. Let the ground between the rows be deeply stirred with a fork before earthing-up.

**ONIONS** will now require regular attention. Stir the soil between the rows with the hoe. During showery weather a light dressing of Nitrate of Soda will be found beneficial. Where the onion grub damages the crop, spraying every ten days with a weak solution of paraffin emulsion is a certain remedy.

## THE FLOWER GARDEN.

**STAKING HERBACEOUS PLANTS.**—Place stakes to plants that are growing and need support later. The simplest way is to use pea sticks, placing several sticks around each plant. The sticks may be trimmed off at the top, according to the height of the flowers. Keep the borders and beds well stirred with the hoe to keep down weeds: this is one of the best ways of saving watering.

**DAHLIAS.**—Young plants raised from cuttings may now be planted with safety. In planting, make deep holes and mix well-rotted manure with the soil. Plant in rows 5 feet apart each way, placing a stake to each plant and tying them to prevent their being broken.

**BEDDING.**—Such plants as were placed in frames last month to harden off may now be planted out in the beds and borders prepared for them. During dry weather they must be kept watered until well established.

**HARDY ANNUALS.**—Let all hardy annuals which may have come up too thick be thinned out, so that each plant may have room to grow to its full size.

**DRYING BULBS.**—As soon as the flowering of Anemones is over lift the roots carefully and dry them for storing. Tulips and Narcissus are now ready for lifting. The bulbs must be well dried before removing the foliage and loose skin. Store them in a cool place.

## THE FRUIT GARDEN.

**CORDON PEARS AND APPLES.**—The numerous side growths on the trees should be stopped towards the end of the month, pinching them back to the fourth leaf. If the trees have not reached the height of the wall, allow the leader on each tree to remain its full length for the present. To obtain fruit of good quality thin them to a moderate number. In dealing with other trained Pear and Apple trees, train in the shoots required for extension, and stop the remainder as recommended.

**RED AND WHITE CURRANTS.**—The bushes may be summer-pruned with a view to the fruit and growth receiving the full benefit of sunlight and air. Stop the side growths at the fourth leaf and shorten the leaders. Let the soil between the bushes be well hoed before placing the nets in position to protect the fruit.

**BLACK CURRANTS.**—This crop also should be protected by nets, which should now be placed in position. In the case of Black Currants, summer pruning is not necessary.

**STRAWBERRIES.**—Those requiring straw to protect the fruit should have attention as soon as possible. Clear off all weeds before placing the net in position.

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# Irish Gardening

## Contents

	PAGE
Some Flowering Shrubs in Spring . . .	97
The Month of Roses (Illustrated) . . .	100
The Escallonias . . . . .	101
June Flowers . . . . .	102
Meconopsis Prattii (Illustrated) . . .	103
Meconopsis nepalensis var. elata (Illustrated) . . . . .	103
Notes—	
Anchusa Dropmore Variety . . .	104
Linum salsoloides . . . . .	104
Summer Flowering Torch Lilies . . .	104
Aphides Abietinæ . . . . .	105
Heucheras . . . . .	105

### Notes—Continued.

	PAGE
Lady-birds and their Larvæ . . .	106
Fendlera rupicola (Illustrated) . . .	106
Geraniums for the Rock Garden . . .	106
Irises (Illustrated) . . . . .	107
Potato Spraying . . . . .	108
Reviews . . . . .	109
Obituary . . . . .	110
Allotment Observations . . . . .	110

### The Month's Work—

Southern and Western Counties	111
Midland and Northern Counties	111



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# IRISH GARDENING

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ADVANCEMENT OF HORTICULTURE AND  
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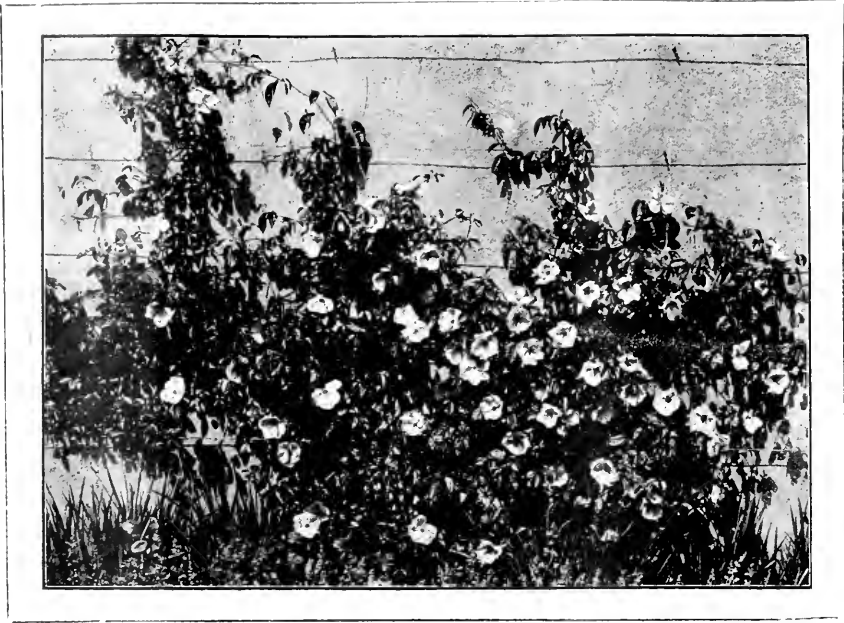
## Some Flowering Shrubs in Spring.

THE fine display of flower this year has been specially noticeable on two plants of remarkable beauty which form part of the magnificent Flora of Chile—*Embothrium coccineum* and *Tricuspidaria lanceolata*. The former, it is satisfactory to know, is becoming a favourite in Ireland, and if only healthy young plants are available, we may hope to see it flourishing in many parts of the country. It is not difficult to establish, provided that it is not moved before it is thoroughly well rooted, that there is no lime in the soil, and that it is placed in some shelter. It may be propagated by seed, or by layers, which, however, take some time before they are fit to be removed; when it is established it grows quickly. It is well worth trying where the climate is not too harsh, and where other conditions are favourable—being a handsome tree with graceful foliage, and covered with large clusters of brilliantly scarlet flowers, a wonderful shade not seen on any other plant. One of the specimens here (Rostrevor), obtained some four or five and twenty years ago, is now about 35 feet high, and from early in May until well into June it was a blaze of intense red, which, while at its best, almost obliterated the leaves from view. *Tricuspidaria lanceolata* (sometimes called *Crinodendron hookerianum*) is more generally known, and it is hardly necessary to say that it is evergreen, with rich crimson hanging blossoms that open towards the end of May. The flowering buds are formed in autumn; and as the winter before last was unusually long and severe, many of them dropped off. Hence there was a poor display of bloom in the spring of 1917; but the deficiency has

been fully made up this season, and never have I seen it in greater profusion. The fruit deserves a note; the pods form on the long foot-stalks, at first green, then becoming yellow, they split open, exposing to view numerous ivory white seeds, packed like ears of Indian corn. The foot-stalks, however, soon decay, and the pods fall off the plant; but when they are on it they give it a very peculiar appearance. *T. dependens*, also from Chile, was introduced by Mr. Elwes seventeen years ago, evergreen leaves smaller and rounder. It is not quite so hardy as its companion, and has not yet produced its white flower here, though one of the plants is some 12 feet high. It grows to a tree in its own country, and is said to be a beautiful object. We scarcely have enough experience of it to say how it will eventually develop in these latitudes. *T. lanceolata*, we know, does thoroughly well in Ireland, and even seems to grow to a larger size than is the case in its native Chile; some of the bushes here are 25 feet high.

The merits of *Prostanthera lasianthos* need not be alluded to, as they have already been noticed in IRISH GARDENING; but there is another species, *P. violacea*, which deserves attention. Coming also from Australia, it is an evergreen plant, eventually becoming some 5 feet in height (I think perhaps it may be somewhat larger), with slender branchlets, very small fragrant leaves, and with masses of little dark violet-coloured flowers. It has stood out here without protection, unhurt, during the past two winters; and I believe when it becomes really established it will be hardy in





ROSA LAEVIGATA ANEMONE.

proper shelter. Small plants in pots in a cold house or frame are abundant bloomers, but the specimen outside did not show the same luxuriance in this respect. The severity of the winter 1916-17 (its first experience of the cold weather was not very fortunate!) is probably the cause, and I hope that when we have had a few of our usually mild seasons to encourage the growth, it will prove quite as satisfactory in the open as it is under glass. If so, it will be a decided addition to the garden. Another plant not often seen is *Anopterus glandulosus* from Tasmania, belonging to the Saxifrage Order and a close ally of *Escallonia*. It is also evergreen, with long glossy leaves serrated at the edges, and bearing arching sprays of pure white flowers in June, each about half an inch in diameter. The specimen here is between 3 and 4 feet high, and grows well in a sheltered position without a wall or other protection. From the antipodes, several species of the genus *Leptospermum* (of the Myrtle Order) have been brought to this country, of which *L. scoparium* from New Zealand is perhaps the best known; and being covered in June with numerous little white blossoms it is always a desirable acquisition. It looks after itself and propagates itself by self-sown seedlings. Its varieties, however, are much more welcome! especially *L. Nicholsii*, bright crimson—a very beautiful

sight; *L. Chapmanii*, each individual bloom larger and well splashed with the same red tint, leaves purple; *L. Nairni*, rather similar to *L. Chapmanii*, and foliage even a better colour. *L. Boscawenii* is a hybrid with large flowers white with a fine rose-pink stain at the base of each petal shading into the white, an extremely attractive plant.

Belonging to the Heath Order, *Gaultheria hispida* is a small upright shrub with stiff leaves, and bearing in May clusters of white flowers that look like Lily of the Valley; later on they will be succeeded by curious white berries. There are other species of the same genus, but as they are more remarkable for fruit than for bloom, they need not be mentioned at present. *Cladanthus pyrolaeiflorus* from western North America is still rare and has a curious brown-orange inflorescence. *Leiophyllum buxifolium* "Sand Myrtle" is better known, and is a dwarf much branched neat little shrub with numerous small pink flowers. *Leucothoe Davisiae* from California is a spreading bush not more than from 3 to 4 feet high, but if room be given to it, it will cover a good deal of ground; the panicles of white pitcher-like flowers rise well above the leaves, and it is considered to be one of the best of that genus.

Of the Heaths, *Erica alpina* is a charming



upright rather fastigiate shrub, with soft green foliage, white. It is held to be a variety of *E. arborea*, but in appearance it seems to differ a good deal from the type, while it blooms in May, whereas *E. arborea*, like *E. australis*, &c., opens earlier in the year.

There are many plants of much merit included in the Magnolia Order, among which *Drimys Winteri* and *Illicium floridanum* may be noticed. The former has long leaves somewhat like a *Rhododendron*, with a pungent taste, and large clusters of creamy white flowers; the effect on a shrub 30 feet high is very fine. The latter is smaller, foliage pale green and solitary blossoms nodding, two inches in diameter, maroon-purple, of an unusual shape and shade. *Magnolia Watsoni* and *M. parviflora* are both to be commended; they are rather similar in appearance and at one time were thought to be the same, but they differ in various ways, and are now recognized as distinct species. The flower is strikingly beautiful, pure white with a conspicuous wreath formed of bright crimson stamens round the centre. Some of the petals of *M. Watsoni* are tinged with rose, and the cup-like bloom is somewhat larger than that of *M. parviflora*. *M. hypoleuca* from Japan grows into a large tree up to 100 feet in height. It

was introduced in 1884; and has been here for some twenty years, now between 20 and 25 feet high. But it has not yet produced any bloom. There is, however, a fine specimen at Narrow Water, which I saw the other day, and which, not much older than my plant, was in good flower, creamy white, very large and strongly scented. It seems to be quite hardy, and it is to be hoped that in course of years it may be a feature in our woods. Nor should *M. macrophylla* be forgotten—even though it has not flowered here, and I do not know whether it has done so in any part of the British Isles—if only because its foliage is most remarkable and unlike any other tree that lives out of doors. The leaves are from 2 to 3 feet in length and up to one foot broad; it seems hardy here.

*Berberis stenophylla* is a well known hybrid between *B. Darwinii* and *B. empetrifolia*. A self-sown seedling grew here unexpectedly, and as it selected a suitable place for itself, it was allowed to remain. It is now 12 feet high and more through, and in May it produces arching wreaths of small double blossoms that smother the whole plant in a bright orange colour. The fairly common *Abutilon vitifolium*, a delicate mauve, and its white variety, cannot also be too highly commended, when they become



ROSA MOSCHATA FLORIBUNDA.

large bushes; and if grown near the newly imported *Rosa Moyesii*, the contrast is extremely good. This Rose, coming from China, has a very pleasing foliage and a remarkable shade of red with golden stamens forming a sort of crown round the centre of the flower. A few of the *Ceanothus* may be noted on account of the blue tints they introduce into a shrubbery. *C. veitchianus* is often seen against a wall, and is one of the best, but it grows quite well in the open; similar to it is *C. papillosus*, with longer leaves; *C. divaricatus* seems to be more rare, the blue shade is lighter and forms a pleasing contrast with those just mentioned. *C. thyrsiflorus*, the "Californian Lilac," and its variety *griseum* are worthy of cultivation. *C. indigo* is a hybrid, and is dark blue, but it flowers later in the year. *Solanum crispum*, from Chile, is an abundant bloomer, a delicate bluish-purple; and allied to it is *Fabiana imbricata*, from the same country, a slender shrub heath-like in appearance, and covered in June with numerous small pure white tubular flowers. *Olearia stellulata*, *O. macrodonta* and others make a fine display of white, and look as if they were covered with snow. *Buddleia Colvillei*, from Sikkim, is fairly well known with bunches of pink bloom; there is a beautiful dark red variety which is very rare.

Among the many plants recently introduced, *Pyrus theifera* promises to be a welcome addition to the arboretum, with conspicuous white flowers. *P. (Sorbus) essertauxiana* has handsome pinnate leaves, shining green, and large corymbs of many small blossoms. A *Potentilla* sent to this country by Purdom without a name is very desirable, it is like *P. Veitchii*, but a finer form, beginning to bloom earlier and lasting longer. *P. fruticosa* var. *arbuscula* is superior to the type both for foliage and colour, having a much brighter and deeper shade of yellow. *Deutzia glomeruliflora*, pure white, *D. longifolia*, light purple, and *D. Veitchii*, a rosy purple and a profuse bloomer, are very good species. *Indigofera amblyantha* has panicles of dull pink pea-like flowers; *Campylotropis chinensis* resembles a *Desmodium*, pink. *Abelia Schumannii* is uncommon, with dainty foliage, and flowers about an inch long, rosy purple and yellow markings. *Kolkwitzia amabilis* is a larger shrub with a somewhat similar inflorescence. The last two are allied to the *Lonicera* genus, which is a large one, and embraces many climbers, of which two may be noticed, though only the last is new to cultivation: *L. semper-virens*, the evergreen scarlet "Trumpet Honey-suckle," and *L. ciliosa* a bright orange; both are beautiful plants, and well adapted to climb over thorn trees.

J. R. of B.

## The Month of Roses.

NOWADAYS most people cavil at June being called the month of roses, and there is every reason for the objection if we consider the various and multitudinous garden hybrids as constituting all there is in roses.

Where, however, one chances on a garden where the wild roses of our own and other countries are grown and loved, then, indeed, the appellation seems less inappropriate. June ushers in many of the wild gems of far countries as well as the common roses of our own hedges and waysides. Few gardens can afford space, perhaps, for these rather vigorous growers, and for general usefulness doubtless the dwarf, modern hybrids are to be preferred. One wonders, however, what Daisy Hill Nurseries must be like in June, where the veteran plant lover, Mr. T. Smith, has a wonderful collection of wild species and old-fashioned garden roses, beloved by gardening folk of other, and perhaps happier days. There is a grace, sweetness and beauty about the wild roses that wins the admiration of all who love flowers, although many may sigh for the space to accommodate them. Of the wild roses which are flowering now in the middle of June perhaps the most striking is *Rosa Moyesii*, with immense single dark red flowers, produced on short shoots from the older growths. Furnished with strong prickles, and producing stout growths annually, this handsome rose soon reaches a height of over 6 feet.

*Rosa cinnamomea* is attractive, with large pink or light red flowers, pleasantly scented; while *Rosa grandiflora* is a hybrid of *R. moschata*, the Musk Rose and the many flowered *R. multiflora*. It produces long, vigorous, arching shoots, bearing clusters of large white flowers, much resembling the latter parent. It is apparently of continental origin, and not to be confused with *R. grandiflora* of Lindley, which is a form of *R. spinosissima*.

There is confusion about the true *Rosa Xanthina*, which is apparently a synonym of *R. Ecae*, which comes from Afghanistan, and is a small, slender growing shrub, densely prickly, and here flourishing only on a hot, sunny wall. The plant commonly met with as *R. Xanthina* is a much more vigorous plant, producing at the present time—mid-June—quantities of single yellow flowers.

The Japanese *Rosa rugosa* is one of the most useful of June flowers, admired alike for its scent and the beauty of the flowers. A vigorous grower, it will establish itself thoroughly in soil of indifferent quality, and would make a useful hedge about an informal rose garden. There are many hybrids of this species, some

of much merit, and possibly they are much more frequently met with in gardens than the type. The original has large flowers, of a rather purplish hue, but very sweet-scented. The pure white single variety is very beautiful, as also are double red and double white varieties. Numerous hybrids with other species have been put in commerce, but few of them are equal to those just mentioned.

The "Penzance Briars" are well known in gardens, combining beauty of flower with the sweet scent of the wild Briar. They are vigorous growers, requiring lots of room to develop, and are useful where a free, vigorous hedge is required. They flower in June, and show considerable variety in colour; some of the best are Anne of Geierstein, with crimson flowers; Jeanie Deans, scarlet crimson; Lady Penzance, coppery yellow; and Lord Penzance, fawny yellow.

Among the newer kinds flowering in June one cannot omit *Rosa Davidi*, introduced from China by Mr. E. H. Wilson. There are several forms of this species, but the flowers are mostly some shade of pink or light-red, produced on shoots of the previous year's growth. Apparently of vigorous growth when established, this species will yet become popular where wild roses can be grown. The fruits, too, are ornamental in autumn, and differ in colour and shape, some being red, others orange, and others elongated.

The Cherokee Rose, *R. laevigata*, is beautiful on a sunny wall and perhaps in the open in mild districts. The large white flowers, three to four inches in diameter, are beautiful when seen against the glossy green leaves. Perhaps more beautiful still is the rose known as *R. laevigata* Anemone, which produces immense, beautiful, blush-coloured flowers, and is a glorious sight on a sunny wall. It does not flourish everywhere, but is worth giving a sunny, sheltered place wherever possible.

There are many other wild roses, but space forbids mention of more at present, and in any case few will care to grow more than a small selection, but all who contemplate rose-growing in the future should certainly bear in mind the wild species.

B., Dublin.

## The Escallónias.

THESE form a most important group of summer flowering shrubs, especially valuable in flowering at a season when the wealth of spring flowering subjects is on the wane. They are of comparatively easy cultivation, succeeding in

any soil of fair quality if fairly moist. Some, however, are harder than others, but nearly all are suitable for cultivation in Ireland, especially round the coast. In the colder inland counties and in exposed positions frost and cold winds in spring frequently cause browning and withering of a proportion of the leaves, and occasionally the softer shoots are injured, but recovery is usually rapid as soon as growth begins. Propagation is readily carried out by means of cuttings of the half-ripe shoots taken in July. They may be rooted in cold frames, kept close and shaded for a few weeks, or under hand-lights in a shady position, while they also soon respond to treatment in a warm greenhouse. Seeds are often produced by such species as *E. macrantha*, *E. rubra*, *E. punctata*, &c.

Of the harder species, *E. illinita* is worthy of notice, bearing white flowers. The oval leaves are somewhat sticky to the touch, and the plant has a somewhat unpleasant odour, which however is only occasionally pronounced enough to be offensive. *E. macrantha* is one of the best-known species, forming a vigorous, dense evergreen, especially near the sea. The oval leaves are often three inches long, of a dark, glossy green. The flowers are rosy-red in colour, freely produced in panicles two or three inches long. When in flower, in June and onwards, it is a handsome shrub. In Ireland large masses are frequent.

*E. Philippiana* is a Valdivian species, less vigorous in growth than some, but apparently one of the hardiest where the soil is suitable. It is unhappy where much lime is present—at least, repeated attempts to grow it at the Botanic Gardens, Glasnevin, have failed, though the other species grow well. *E. Philippiana* is deciduous; the leaves one-half to one inch long, and much narrower. The flowers are pure white, produced in short racemes.

*E. pterocladon*, from Patagonia, suffers somewhat from spring cold in some districts, but is nevertheless hardy in many parts of Ireland. There is a fine specimen in Daisy Hill Nurseries, Newry, and others elsewhere in Ireland. An evergreen, with comparatively small, narrow leaves, and bearing racemes of white flowers, this is one of the prettiest of shrubs when in flower. The habit is more upright than in most of the others.

*E. punctata* is a vigorous grower, producing crimson flowers from June onwards for some considerable time. *E. rubra* is very similar, but the flowers are lighter in colour; both seem quite hardy.

*Escallonia viscosa*, as the name implies, is

sticky from the presence of resinous glands on the branches, though the same thing is noticeable on other species. Of spreading habit, *E. viscosa* has much similarity with *E. illinita*, and has the same unpleasant odour. The flowers are white, and the plant is effective when in flower, but some might reasonably object to the odour, strongly suggestive of artificial manure. In addition to the species, a number of hybrids have been raised quite equal to any of those just mentioned, and exceeding some in beauty and usefulness.

*E. exoniensis* is a vigorous-growing hardy hybrid between *E. pterocladon* and *E. rubra*. It quickly grows to a considerable height, producing leaves from one-half to an inch or more long, and from June onwards quantities of white or pink-tinted flowers, which never fail to attract.

*E. langleyensis* is, perhaps, the most popular of all Escallonias, growing from 6 to 8 feet high, and more in suitable localities. The comparatively small leaves are not more than an inch long, and the lovely carmine-coloured flowers are often so freely produced as to render the plants conspicuous from a considerable distance. *E. edinensis*, raised in the Botanic Gardens, Edinburgh, is somewhat similar, but flowers paler in colour and rather larger. *E. Donard* Seedling, raised by Mr. Coey, of the Donard Nursery Company, County Down, has still lighter-coloured flowers, and promises to be a most effective shrub. There is still work to be done in improving the hardiness of the Escallonias, and by using such hardy species as *E. philippiana* and *E. rubra* it is quite possible a very useful set of shrubs will be produced suitable for general planting in cold districts. There is likely to be other hybrids before long.

As alluded to above, some species are harder than others, and the following are generally too tender for cultivation except against a wall, where however they do well, though in some districts the flowers are produced too late to develop properly:—*E. floribunda* and *E. montevidensis* with white flowers, and *E. organensis* with rosy-coloured flowers. These species are natives of Venezuela, Peru, Brazil, and Uruguay.

*E. pulverulenta* and *E. revoluta* are two allied species, with hairy leaves and white flowers. They may be added to the list of those suitable for wall culture, since they appear to be decidedly less shady than the green-leaved kinds described above; and also they are less attractive, as the white flowers are not particularly noticeable against the grey foliage.

J. W. B.

## June Flowers.

JUNE, up to the 17th at least, was remarkable for cold and drought. On the 9th a violent storm of wind accompanied by some rain did an enormous amount of damage in smashing down herbaceous plants and breaking branches, mostly small, off trees. The following morning the garden was littered with leaves—a woeful sight in the middle of summer. All the same there has been much of interest in the way of flowers, both in shrubs, herbaceous plants and alpinists.

Of shrubs, one of the most interesting on a wall was *Caesalpinia japonica* with elegant pinnate leaves and erect panicles of bright yellow flowers. A native of Japan, belonging to the Pea family, this shrub requires warmth to succeed, and here only grows well against a wall.

*Diostea juncea*, a peculiar shrub of the *Verbena* order, does well in a shrubbery though appreciating some protection: the branches are quite green and leafless in winter, the leaves being few even in summer and small. The tubular flowers are nearly white with a tinge of lilac. When flowering freely this shrub is rather pretty, and is interesting on account of its affinity with the *Verbenas*.

Of comparatively recent introduction from China, the *Dipeltas* are handsome leafy shrubs with pretty flowers, which, however, are rather hidden by the leaves; they have every appearance of growing to a height of 12 or 15 feet. *D. floribunda*, with large ovate leaves up to 4 inches long and pink flowers with yellow in the throat, is attractive; the bark of the older branches peels off in flakes.

*D. ventricosa* has equally large leaves and rose coloured flowers with an orange throat. An interesting characteristic of the *Dipeltas* is the development of the bracts at the base of the ovary which remain after the flower fades and form wings to the fruit. I have not seen any good seed formed, however, and though cuttings can be rooted they are not easy; possibly soft young shoots would be better than those half ripened.

*Styrax Wilsoni* is a pretty small leaved shrub of twiggly growth not long introduced from China. The leaves are only about half an inch, or in some cases nearly an inch, long and much narrower. The flowers, which hang down, are pure white and most attractive. In Sir John Ross's collection at Rostrevor House it was doing well a year or two ago: here it is growing well in a border in front of a greenhouse, and looks like outgrowing its position. It can be propagated by cuttings.

*Genista tinctoria appenina* is a free flowering prostrate form with the flowering shoots somewhat ascending and densely furnished with bright yellow flowers; the form known as *G. tinctoria mantica* is looser in habit, and has the young shoots of a purple colour. Both are suitable for the rock garden. *Genista virgata*, the Madeira Broom, is of upright habit, and forms a large bush up to 10 or 12 feet in height; leaves narrow and silky below, flowers in short racemes, rich bright yellow in colour. This is an excellent shrub for planting in thin woodlands.

*Cytisus nigricans*, with trifoliate leaves and long racemes of bright yellow flowers, is an attractive shrub in June. Other shrubs of the Pea family flowering in June are *Petteria ramentacea*, with Laburnum-like leaves and short spikes of yellow flowers; *Colutea cilicica*, with unequally pinnate leaves and rich yellow flowers in clusters of 2-5; *Hedysarum multigum*, with long pinnate leaves and slender spikes of rosy purple flowers, is quite attractive. The tree Lupins are useful shrubs in poor soil, flowering freely and persisting longer than in rich ground. The typical form has yellow flowers, and there is also a pure white variety, as well as varieties with blue and white flowers, and various other shades. Old plants of *Lupinus arboreus* are apt to die off in winter, especially if grown in rich soil, and it is well to propagate a few young plants occasionally by cuttings of short side shoots taken in July. Seedlings of the yellow and white varieties usually come true.

In succession to the earlier flowering Clematises there are several forming a succession in June. *Clematis montana Wilsoni* is the latest of the montanas, and flowers from June onwards, producing its four-sepalled white flowers freely; somewhat similar is *C. Spooneri*, also with four-sepalled white flowers and leaflets, lobed and occasionally toothed; *C. Fargesii* has six-sepalled white flowers and sharply toothed leaves; *C. carunculosa* has pendent yellow flowers, almost double, and leaflets variously toothed and cut; *C. Ville de Lyon*, a garden hybrid of the *Jackmanii* type, has attractive flowers of a deep wine red; while *C. viticella rubra*, with dark brown purple flowers, is not by any means brilliant, but adds variety; it was raised from seeds sent here from Bulgaria.

*Magnolia parviflora* has been glorious on a shady wall, having quite a number of its flowers open at one time. The pure glistening white petals are beautifully set off by the central boss of crimson stamens; the flowers are delicately perfumed. Other shrubs which are flowering

now are *Rhododendron micranthum*, with clusters of small white flowers resembling a *Ledum*, and *Daphne oleoides* with glaucous leaves and clusters of white flowers.

Alpine and bog plants have continued to make a good show. The many species and garden varieties of Pinks (*Dianthus*) have been very gay, also large masses of *Campanula portenschlagiana* in various varieties. In boggy places *Roseæa cantlioides* is bearing many of its bright yellow flowers, and *Cypripedium spectabile* has borne many of its pink and white "slippers," and seems happy, though overgrown about the roots with a mass of *Primula cortusoides*, now out of flower.

In the herbaceous borders, *Heucheras*, *Delphiniums*, *Anchusas*, *Violas*, Pinks, Lupins, Oriental Poppies, &c., have made a brave show, though somewhat dwarfed by the long drought.

J. W. B., Glasnevin.

### *Meconopsis Prattii*.

THIS beautiful new Chinese species has much the appearance of *M. racemosa*, but is perhaps more robust than the plant we have, up to now, been growing as *M. racemosa*. The flower scapes are from 2-3 feet high, bearing many handsome flowers of a deep blue, though on some plants they show a tinge of purple. The basal leaves are up to 1 foot long, tapering to both ends, and about 1½ inches across at the widest part, which is more than half-way from the base. The lower flowers are borne on long pedicels, those higher up on the scape being shorter. Leaves, stems, calyces and pedicels are all furnished with stiff yellowish hairs. Anthers white.

### *Meconopsis nepalensis* var. *elata*.

THIS is a handsome plant growing from 3-4 feet in height and bearing a fine pyramidal inflorescence of large clear yellow flowers. Some individual flowers were as much as 3½ inches across on the strongest plants; the petals, too, are of great substance, much thicker in texture than those of *M. paniculata* growing near by. The basal leaves, up to 15 inches long, are deeply lobed and furnished on both surfaces with a minute yellowish down interspersed with long soft hairs; the leaves in consequence have a greyish appearance in general distinct from the tawny yellow of *M. paniculata*. Anthers, deep orange. Both this and the above-mentioned species flourish in moist porous peat among *Rhododendrons*, and make a pretty feature, flowering in June.

B.



MECONOPSIS PRATTII  
At Botanic Gardens, Glasnevin.

## Notes.

### *Anchusa Dropmore Variety.*

THIS fine plant has done extremely well this year, and in the middle of June is a glorious mass of dark blue, in a great measure compensating for the comparative failure of many of the *Delphiniums*, which for some reason or other are disappointingly dwarf and stunted this year.

There are other varieties of *Anchusa italica* of similar habit, but differing in colour. *Opal* is lighter in the shade of blue, and *Lissadell Variety* is said to have larger flowers than "*Dropmore*." A deep but well drained soil is necessary for the development of perfect specimens, but a soil which is cold and wet in winter is detrimental, causing many of the roots to rot. In cold districts, therefore, it would be wise to select a sunny position, and thoroughly prepare the site ere planting. Propagation is easily carried out by means of root cuttings. Pieces of the roots, from pencil thickness up to the thickness of a man's thumb, callus readily, and soon make nice young plants. They may

be put in nearly any time, but probably most convenient in late autumn, when, if dibbled into pots or pans and kept just free from frost, they will callus and break into leaf in early spring. It is best to pot off singly, when the leaves are about half-developed, subsequently transferring to their permanent quarters from the pots.

*Anchusa Barrelieri* is another useful early flowering species of dwarfer habit, reaching a height of about 2 feet. It is useful in the herbaceous border in May, giving a welcome touch of blue, much wanted at that time. It may also be used effectively in the rougher parts of the rock garden. Care is needed in planting this species, as every bit of root left in the soil will grow, and plants will frequently appear where they are certainly not wanted.

*Anchusa myosotidiflora* is well-known to lovers of rock gardening, its sprays of small bright blue flowers, like *Forget-me-nots*, appearing often in April. It, too, is readily increased by root cuttings, which when potted off and established may be transferred to the rock garden at any time.

### *Linum salsoloides.*

THIS is one of the most attractive of the *Flaxes*, of which there is a goodly number suitable for the rock garden. With prostrate, trailing stems, clothed with narrow leaves and bearing masses of white flowers showing a faint tinge of rose, a well-grown plant spreading over a stone is a most pleasant sight on a warm, sunny day. There is a variety called *nanum* or *prostratum*, which differs but little from the type, except that the growth is less free and trailing, and the plant is consequently more compact; in this case there seems no advantage in compactness.

### Summer Flowering Torch Lilies.

THE *Kniphofias*, to give them their proper name, are usually associated with autumn, chiefly because the more ornamental *K. aloides* and its varieties are more generally planted. There are one or two early flowering species, however, which are worth including in a collection of herbaceous plants, especially where they can be planted in groups by themselves or as isolated specimens here and there. *Kniphofia caulescens* from S. Africa flowers in the end of May and early June, though sometimes described as autumn flowering. If allowed to extend, it forms a spreading mass of thick stems terminated by tufts of blue grey leaves, which alone make the plant ornamental. The flowers are light red at first, shading away to a whitish yellow shade; a good, broad mass is very effective.

*Kniphofia praecox*, also S. African, is attractive, flowering in June, and more nearly resemble the autumn-flowering species. The bright-red flowers are produced in rather short spikes at the ends of the main stems, and are about 2 ft. long. The leaves in this case are green. *Kniphofia Tuckii*, from Cape Colony, has pale yellow flowers flushed with red; the leaves are glaucous, as in *K. caulescens*, and a mass of flowering in early June is an addition to the Flower Garden. X.

### *Aphides Abietinæ.*

This pest, in appearance much like a small "greenfly," has lately been extremely prevalent on many species of *Picea*, a genus of coniferae differing from *Abies* in the narrower, more pointed leaves, which are generally four-sided, but flatter in the *omorika* section, and in the pendulous cones, the scales of which persist until the cone falls, as opposed to those of *Abies* in which the cones are erect, the scales falling away when ripe.

It is somewhat remarkable that the attack should have been almost confined to *Picea*, affecting such different species as *pungens*, *omorika*, *sitchensis*, *orientalis*, *obovata*, *Maxi*, *mowiczii*, *morinda*, &c. The first indication of anything wrong is the appearance of yellow dots on the leaves, which soon become wholly yellow, then brown, subsequently falling off, a bad attack resulting in complete defoliation. If immediate means of ridding the trees of the aphides is not taken the trees will die. *Quassia* extract, applied according to directions, is effective, but the most effective remedy is tobacco water diluted with three times its bulk of clear water. To make the mixture more effective, a quarter pound of soft soap dissolved in hot water, added to about 15 gallons of the mixture, renders the fluid more adhesive. Two sprayings, at intervals of a month or so, will effect a cure. It is almost impossible to reach to the top of tall trees, but those of 25 feet or so can be treated with an ordinary garden engine, with a hose and spray nozzle attached. Two men are required—one to work the pump and the other to direct the spray. Smaller specimens may be treated with a syringe or ordinary knapsack sprayer.

### *Heucheras.*

THERE are no more useful plants than the various varieties of *Heuchera* for providing flowers for cutting from June onwards. Nurserymen's catalogues contain names of

many different kinds, most of which are of great beauty. It is quite unnecessary, however, to stick to named kinds, for seedlings present any amount of variety, and often are more vigorous than the parents. To get the best results from *Heucheras* they must be well grown, and like a rich soil, but one which is not too cold and wet in winter. Established plants when they begin to get leggy, forming tufts of small leaves at the ends of rather hard shoots, should be lifted, broken up, and replanted, burying the stems up to the leaves; this is best done in spring, just as growth is commencing.

Far more vigorous plants are obtained from seeds, which should be collected from the best varieties in the garden. Seeds can usually be obtained from July onwards, and should be sown at once. Germination is fairly rapid in a few weeks; if the seedlings are brought on in a cold frame they will be large enough to prick out into a bed in the open. The bed may be situated in the reserve garden, where the plants can remain to provide cut flowers, or, if the seedlings are thought too small to put out in autumn, they may be kept



MECONOPSIS NEPALENSIS VAR. ELATA  
In the Botanic Gardens, Glasnevin.



over till spring and put out at the first favourable opportunity. The majority will flower the first summer, and worthless varieties may be weeded out, the remainder being grown on for any purpose desired.

### Lady-birds and their Larvæ.

Most people who own a garden or a plot are familiar with the plump little insects called Lady-birds. They are easily recognised by their hard, shiny wing-covers, often with two or more spots. The larva is a curious crocodile-like animal which seems to be very prevalent this year, and many people are alarmed to see dozens of them crawling about crops of various kinds. Often when the crop shows signs of having been eaten by insects the Lady-bird larva is at once suspected of being the culprit, but this is not really the case. Both the adult Lady-bird and the larva live entirely on other insects, and it is to seek these that the larvæ are so busy and prevalent round plants that are being eaten. Every encouragement, therefore, should be shown to these busy little creatures, which destroy thousands of injurious insects, and are of the greatest value to all gardening people.

### Fendlera Rupicola.

THIS is an interesting shrub of the Saxifrage family, and one which all lovers of rare shrubs should endeavour to include in their collections. A native of Texas and New Mexico, it is hardy in sheltered positions and probably quite hardy in the milder districts of Ireland, even when planted in the open. The flowers are four petalled, as shown in the illustration, and are nearly pure white. The habit of the shrub is thin and straggling, but it will reach a height of 4 or 5 feet in shelter, and certainly more against a sunny wall. The flowers are produced on short twigs arising from shoots formed the previous year. The larger leaves are about an inch long, less in width, but on the flowering shoots they are much smaller and narrower. Propagation may be effected by cuttings and layers and occasionally by seeds, which are produced in some districts, and may sometimes be imported. The flowering season is May and June.

DUBLIN.

### Geraniums for the Rock Garden.

FOLLOWING the first big flush of spring flowers on the rockery we have various other kinds of plants which carry on the display into the summer months. Among these the various dwarf species of *Geranium* are worthy of notice. Most of them have showy flowers and some have

ornamental foliage, alone, entitling them to a place in our affections. With few exceptions, they are of comparatively easy culture, given well-drained soil and a sunny position. Propagation can usually be managed by divisions, cuttings or seeds, as found most convenient. The delightful little *Geranium sessiliflorum*, from Australia and Chili, seeds about the rock garden in a remarkable way, favouring the edges of the paths and the chinks of stone steps. It forms dense little tufts of small green leaves, amid which nestle the dull white flowers.

*G. cinereum* and *G. argenteum* are a pair of beauties which should be found on every rock garden. The former has silvery grey leaves, with purple red flowers or in some forms rose-coloured, and the latter beautiful silvery leaves, more deeply cut than the former, and flowers of a rosy-pink colour. Both grow from 6 to 9 inches high. *G. Endressii*, with rosy flowers, is a taller plant, but unless the soil be very rich will not exceed a foot or so, and produces quantities of rose-pink flowers. *G. Fremontii* is, perhaps, a trifle coarser in growth, but rarely exceeds 18 inches on the rockery, and has the merit of producing its pink flowers late into autumn. *G. grandiflorum* grows about 9 inches, and produces any amount of blue flowers just above the foliage. This species is rather a spreader, and should be planted in a pocket confined all round by stones.

A pretty little native plant suitable for the rockery is *G. Robertianum album*, which succeeds best when left to itself, and seeds about, generally affecting the more shady positions. The little white flowers contrast well with the reddish leafstalks and dark green leaves.

*Geranium sanguineum* is often found on rock gardens, but the colour of the flowers is not universally admired; often described as crimson or purple, it is more correctly called magenta. There is a variety, however, with pure white flowers, which is quite desirable, and the pink-flowered *lancastrienne* from Walney Island is a general favourite.

The Himalayan *G. Wallichianum* is a trailer, suitable for trailing over a stone or down a sunny bank. There is considerable variation in colour among seedlings—some being purple, but the best are bright blue, and the others should be rigorously discarded.

*G. Russell Prichard*, a hybrid between *G. sanguineum* and the New Zealand *G. Traversii*, is suitable for either rock garden or herbaceous border. From 9 inches to a foot high, it forms a dense mass, surmounted by innumerable bright pink flowers. It flourishes in a sunny position in well-drained soil. Raised by Mr. Maurice Prichard, of Christchurch, Hampshire.



### *Rosa Moyesii.*

THIS is one of the many beautiful and valuable plants introduced by Wilson into this country. The flowers are large, single, a warm, brick-red colour, two inches to two and a half inches across. These are borne on the long shoots which the plant makes the previous season. The leaflets are small, dark green above and much paler underneath. *R. Moyesii* is called after a missionary in Western China, and grows at a high altitude. It is a plant worth having in any garden, but it is no use crowding it up. It seems to demand plenty of space, and makes a tall bush six or eight feet high. The fruits are remarkable—dark red, bottle shaped, with some hairs on them. Seeds sown in-doors will give a good result, and stock can easily be raised in that way.

R. M. P.

### The Horseshoe Vetch—*Hippocrepis comosa.*

AMONG our native plants there are several quite worthy of cultivation in our gardens and none more so than the subject of our note. Of low creeping habit a single plant will make a spreading mat in the course of a season. The prostrate, wiry stems, clothed with neat pinnate leaves, hang over a stone in a pleasing way, or spread over a flat pocket, as the case may be. The flowers produced in umbels are bright yellow, lasting for a considerable time. They are followed by a crop of pods, which are also rather ornamental. Frequenting chalky soil, the addition of old mortar rubble when planting would be an advantage where lime is absent.

### The Rest Harrows—*Ononis.*

THE common name given above is derived from the fact that certain wild species when very prevalent in cultivated land are so extremely tenacious in their hold on the soil that the harrow is with difficulty drawn over or through them. It is unlikely that there is much land of this character nowadays, but doubtless farmers of former generations had trouble enough in ridding their fields of these weeds. Nevertheless several species are decidedly attractive and are popular in gardens. Some are distinctly shrubby in growth while others are herbaceous. Of those worth growing in gardens *Ononis aragonensis* is one of the best. A native of Spain it delights in a light, stony soil and a hot sunny position. The leaves are in threes, the leaflets saw toothed and the flowers are yellow, produced in racemes; a very attractive dwarf shrub flowering in May and early June. *Ononis fruticosa* is a prime favourite with every one, and comes from the South-West of Europe. It also likes well-drained soil and plenty of sun, though it seems quite hardy, except, perhaps, in heavy, wet soil. The leaves in threes are lance-shaped and toothed, while the flowers produced freely in June are a pretty shade of pink. In the rock garden at Glasnevin a pretty effect was noticeable in early June, where a good bush of *O. fruticosa* was flowering just over a mass of *Nepeta Mussini*, the pink and lavender effect being generally admired.

A somewhat uncommon species is *O. Natrix* with yellow flowers veined with reddish brown. This species is more herbaceous in growth, but reaches a height of two feet or so during summer, from S. W. Europe, it too likes sun and light soil.

*O. rotundifolia* is another pink-flowered species with, perhaps, the largest flowers of all, and, as the name implies, the leaflets are roundish. In the writer's experience it is not so hardy as the first two mentioned, and should be planted in a sheltered, sunny, well drained position, and no opportunity should be lost of obtaining seeds. Introduced from South Europe some centuries ago. *O. arvensis* and *O. spinosa* are native species with pink flowers, the former a low creeper and the latter more erect. Though pretty in a wild state it is doubtful if it is wise to introduce them to gardens.

### *Fuchsia excorticata.*

THIS is, I should imagine, one of the first, if not the earliest of the hardy Fuchsias to bloom. At the time of making this note (June) it is still flowering freely, and showing a number of buds still, as it did during March before growth on the plant became active and when the flowers were shown off to much better advantage.

The latter would, perhaps, be best described as more curious than beautiful, as until they appear to be passing their best they are green in colour changing to a purplish red, which gains in intensity as the flower fades.

The base of the sepals both inside and out is finished with a shade of blue which I will not attempt to describe, and the small petals are black or nearly so. The anthers disclose pollen of a beautiful shade of blue, similar in that respect, I think, to *F. procumbens*.

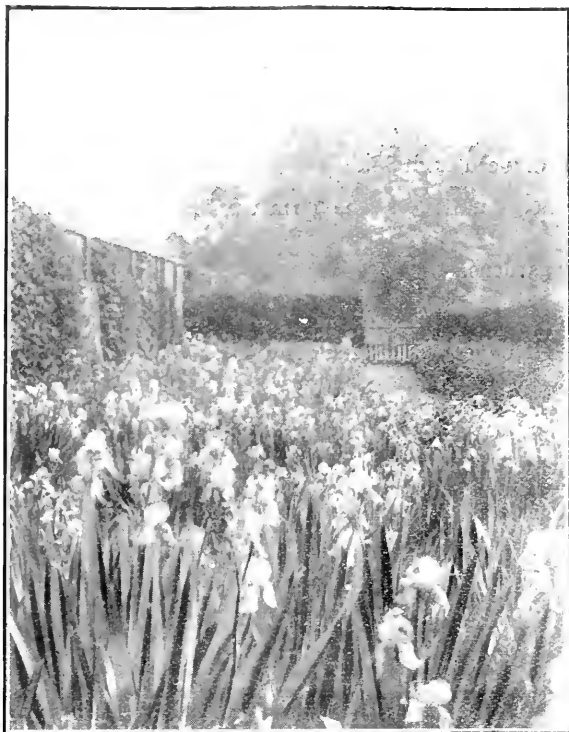
This species does not appear to be very hardy and excepting in sheltered places gets cut to the ground each winter, more resembling a herbaceous plant, but when planted in a sheltered position the blooms are freely produced from the previous season's and older growths.

### Irises.

IN the notes in Intermediate Irises in the last issue of IRISH GARDENING an allusion was made to the possibilities of the "Iris Garden" in the future, when happier times prevail again. In the present number we show the effect of a border of Irises in the Botanic Gardens, Glasnevin. A very good collection of the best named varieties of the various sections is grown in more than one part of the gardens, and visitors are able to see and note the varieties of their choice at various seasons. In the collection illustrated the following new varieties were conspicuous in early June:—*Iris King*, a beauty with standards of old gold and falls of crimson maroon. *Isoline*, with lilac pink standards and old rose falls; *Edouard Michel*, standards and falls wine red; *Niebelungen*, standards fawn yellow, falls purple bronze; *Oriflamme* flowers large, standards blue, falls purple; *Rhein-Nixe*, standards white, falls violet purple; a very beautiful variety. Many other older varieties made a beautiful display, and there is no doubt that a garden of Irises would be a most charming feature.

### The Umbrella Tree.

*Magnolia Tripetala* is another tree-like species with large leaves, also called *M. umbrellata*, or the "Umbrella Tree." There is a plant coming now into flower in Mr. Barton's garden, at the Bush, Antrim, which deserves notice, as it usually does not open its great, creamy-white bloom until it has attained to a considerable size.



A BORDER OF JUNE FLOWERING IRISES AT GLASNEVIN.

## Potato Spraying.

**INSTRUCTIONS FOR MAKING BURGUNDY MIXTURE.**  
—The mixture should be carefully made, otherwise injury to the foliage may result. It is essential that all the soluble copper be precipitated by the addition of sufficient soda. Whilst adding the soda to the solution of copper sulphate the mixture must be vigorously stirred. The precipitate formed by the mingling of these two substances should be flocculent and should remain in suspension for a considerable time.

*For Spraying one-third Acre (say 50 rods).*

1. Dissolve 4 lb. of sulphate of copper in 5 gal. of water in a barrel capable of holding 40 gal., then make up to 35 gal.  
N.B.—Iron or zinc vessels must not be used.
2. Dissolve in another vessel in 5 gal. of water 5 lb. of washing soda (previously broken up into small pieces if necessary).
3. When the soda is *completely* dissolved, add (2) to (1), stirring vigorously meanwhile.  
N.B.—Both copper sulphate and soda should be of fully 98 per cent. purity.

Where smaller areas are to be sprayed, barrels, capable of holding 10 gal., may be used. In that case the quantities of copper sulphate and soda given above should each be reduced to  $\frac{1}{3}$ , namely, 1 lb. of sulphate of copper and  $\frac{1}{3}$  lb. of washing soda.

Burgundy mixture should be bright blue in colour and should not settle for a considerable

time. Experience has shown that the precipitate remains longer in suspension and adheres better to the foliage when the mixture is made up in the above manner than when the soda is added to a concentrated solution of copper sulphate. The fungicide should be used in a fresh state and in no case should it be applied more than 10 hours after it has been made.

*Sulphate of Copper is poisonous*, therefore the vessels in which the copper compounds have been prepared should not be used for the preparation of food.

Opinions differ as to the relative value of Bordeaux and Burgundy mixtures; there is, however, no doubt that both are efficient fungicides. Where freshly-burnt stone lime of good quality is to be obtained the use of Bordeaux mixture is to be recommended. But in districts where good lime is not readily to be had, Burgundy mixture should be used.

**INSTRUCTIONS FOR MAKING BORDEAUX MIXTURE.**  
—This mixture should be made up in the following proportions:—

Copper sulphate	...	...	4 lb.
Quick lime (freshly burnt lumps)	2	..	
Water	...	...	40 gal.

The copper sulphate should be dissolved in 35 gal. of water in a barrel. The lime should be placed in a separate vessel and slaked *slowly*. This is best done by adding only the amount of water which the lime can absorb. After the lime is thoroughly slaked, more water should be added gradually, stirring all the time, to make up to five gal. It should then be strained through a fine sieve and added to the solution of sulphate of copper, the contents of the barrel being vigorously stirred during the mixing.

**CULTIVATION OF LANDS—SPRAYING OF POTATO CROPS TO PREVENT DISEASE.**—It is hoped that the councils of boroughs and urban and rural districts and parishes will help by purchasing spraying machines, if not already in possession of them, with the necessary chemicals, and hiring them out for use by the smallholders and cottagers in their respective districts, and, where possible, arranging for the spraying to be carried out by a competent operator. The Local Government Board will offer no objection to the incurring of the necessary expenditure, but they consider that a suitable charge should in all cases be made for the use of the machines.—*Journal of the Board of Agriculture.*

## Reviews.

### Modern Farming, May 1918.

THIS issue commences the second year of this interesting and practical journal, and is a decided advance on the original number. All departments of the farm are adequately dealt with and much up-to-date information is clearly set forth. In the present issue the following subjects are well treated:—The May Outlook, Scotland's Farm Horses, being a most interesting account of the Clydesdale; The Cow and the Machine, Disc Harrows, Sprays and Spraying, The Waste of Manures, Agriculture in Parliament, and Poultry.

Our farming readers would do well to secure a sample copy.

## Battle-scarred Wastes.

We feel compelled to direct our readers' attention to the communication from the Royal Horticultural Society's Relief Fund Committee, printed in our present issue. Accompanying the letter was a most interesting booklet setting forth in unmistakable tone the desolation wrought in Belgium, France and Serbia by the invading armies, and the urgent need of money to restore the horticultural and agricultural industries in these countries as soon as possible. All were great food producing areas, and much of it found its way to our own land before the war and helped to maintain a large supply of cheap, good food at seasons when our own gardens and orchards were not in bearing. It is pointed out that the present world shortage of food will not cease with the war, but on the other hand there will be the keenest competition among all the belligerents for the available supplies. By assisting to restore Belgium, France and Serbia to a state of productiveness in the shortest possible time we will, therefore, be benefiting ourselves and will the sooner reach the pre-war state of food—cheap and plentiful.

While bearing in mind the many claims on our readers at the present time we would nevertheless urge all who can possibly spare the smallest sum to send it to Sir Harry Veitch, F.L.S., V.M.H., War Horticultural Relief Fund, Room 39, 17 Victoria Street, S.W.1. Cheques should be crossed War Horticultural Relief Fund, London County and Westminster Bank. The President for Ireland is the Countess of Bessborough.

In any case write for the Booklet.

## The Book of the School Garden.\*

THE only observation we have to make is that, while the aim of the practical gardener and allotment holder is to obtain the best possible results from their labour, the true aim of the School Garden should be *education*. What we want in the latter case is not alone to achieve success in some instances, but to bring about failure in many others, and—most important of all—to bring home clearly to our pupils the connection between cause and effect in every case.

Most text-books on School Gardening are written rather from the allotment holder's point of view—i.e., they tell us how to succeed—and the present volume appears to be no exception to the general rule. Indeed, in his preface Mr. Lawrance states: "Only the best and most successful methods are described in this book."

What we want chiefly from the School Garden point of view is a book that will tell us how to fail and why we fail.

## The Journal of the Kew Guild.

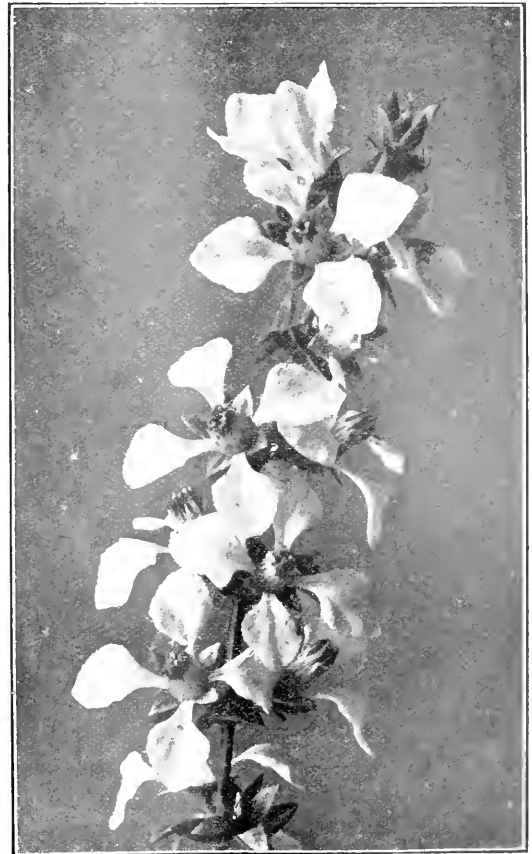
THIS publication, though smaller than usual, will be hailed with delight by Kew men in all parts of the world. The frontispiece is a photograph of Mr. J. A. Gammie, and an interesting account of his life and work is contributed by Sir David Prain. Mr. Gammie, who is President-elect of the Guild for 1918, was born in Kincardineshire, and entered Kew as a young gardener in 1861. In 1865 he was sent to India as manager

of a Cinchona plantation. Mr. Gammie set himself to master the cultural requirements of Cinchona, and succeeded. Through the united exertions of Mr. Gammie and a colleague, Mr. Wood, the ultimate object of the Government, that of placing pure quinine within reach of the poorest throughout the East, was achieved.

As usual, interesting letters from Kewites abroad and on service with the Forces constitute one of the most pleasant features of the Journal.

The Mutual Improvement Society, despite the war, continues its activities, sustained largely, we note, by lady gardeners. When such subjects as the Proof and Use of Mendelism are included in the syllabus it is evident that now, as ever, the "Mutual" continues up to date. A touch of sadness comes to us as we read the list of fallen comrades, some personally known, others of more recent years, and all in the vigour of their manhood—a loss to science and horticulture, but they reeked not while they did their duty.

In such times as these the duties of an Editor are not light: scarcity of paper, the absence of many skilled workers, &c., render production an unenviable task, and we have all the more pleasure in congratulating the Editor on the success of his efforts in producing such an interesting number and the printers for their share in the work.



FENDLERIA RUPICOLA (page 106).

\* "The Book of the School Garden." by C. F. Lawrance, F.R.H.S. Evans Bros., Ltd., Montagu House, Russell Square, W.C.1. 3/6 net.

## Obituary.

MR. A. R. SARGENT.

MANY of our readers are familiar with the splendid work done by Professor Sargent of the Arnold Arboretum, Harvard University, Jamaica Plain, Mass., and will sympathise with him in the loss of his son.

Mr. Sargent was a distinguished landscape architect and worked in close association with his father. Together they made long journeys, including one over the Trans-Siberian Railroad down to Java and Chile and the Straits of Magellan, in search of new plants.

R. HOOPER PEARSON, EDITOR OF THE  
*GARDENERS' CHRONICLE.*

It is with the deepest regret that we record the death, early in the morning of the 11th June, of Mr. Robert Hooper Pearson, Managing Editor of the *Gardeners' Chronicle*.

Devoted to his duties as an editor, he was no less devoted to the interests of horticulture, and to these combined objects he gave all his thoughts with a singleness of purpose which won the admiration of all who knew him.

Mr. Pearson was born on July 18, 1866, at Breedwood, in Staffordshire. His gardening proclivities were pronounced at an early age, and his father apprenticed him in the neighbouring gardens of Keele Hall, under the late Mr. Wallace. After serving his apprenticeship he applied for entrance to Kew Gardens as a "young gardener," and was successful in becoming a member of the Kew Staff. After his two years' training at Kew, where he rose to the position of sub-foreman, he sought further experience in the Marquis of Bute's garden at Cardiff Castle; he was always appreciative of the excellent training he received under the late Mr. Pettigrew. He then went to Patshull Hall, Staffordshire, but after a short stay there he was offered a position on the *Gardeners' Chronicle* by the then Editor, the late Dr. Maxwell T. Masters. He joined the staff of the paper in 1892, and became Editor, on the death of Dr. Masters, in 1903.

He was keenly interested in every aspect of horticulture, and held many offices in various societies. He was Hon. Secretary of the Horticultural Club, and during his term of office the membership increased from about fifty to some two hundred. He was a member both of the Scientific and of the Floral Committee of the Royal Horticultural Society; an active supporter of gardening charities, he held a position on the Executive of the Royal Gardeners' Orphan Fund for many years, and took a real interest in many of the children who were supported out of the Funds. He was instrumental in helping to found the British Gardeners' Association, and for several years was President of the Kew Guild. On the occasion of the Royal International Horticultural Exhibition in 1912, he held the office of Press Secretary, and discharged his duties to the admiration of all.

As an author his best known work is *The Book of Garden Pests*, but his name became famous through the popular series of books known as *Present Day Gardening*, edited by him and written by specialists in each subject.

He married in September, 1893, Miss Jennie Evans, of Lingoed, Abergavenny. His wife and only child, a daughter, survive him.

## Reported Missing.

LANCE-CORPORAL CECIL SMITH.

WE regret to learn from Mr. George Smith of Daisy Hill Nurseries, that his second son has been missing since April 15th. Readers of *IRISH GARDENING* will sympathise with the parents in their great anxiety. The following cutting from the *Newry Reporter* gives the details of his career:—

"Lance-Corporal Cecil Smith, Royal Irish Rifles, son of Mr. George Norman Smith, and grandson of Mr. Thomas Smith, of the Daisy Hill Nurseries, Newry, officially reported as missing since the 15th of April. He left Belfast with a draft on last Good Friday, and was sent up the line in France on Easter Monday. He had served three years in a North of Ireland Camp, and he had just attained his 19th birthday the week before he left for the front. His elder brother is an officer in the Royal Air Force.

## Allotment Observations.

By J. HURLEY, Superintendent Corporation of Dublin Land Cultivation Committee.

NEGLECTED plots at this time of year are easily detected. The absence of the plotholder is revealed by the presence of weeds in large numbers. All weeds should be pulled or kept down with the hoe. Every weed deprives the cultivated crop of a certain amount of nourishment, which has to be put into the ground by the plotholder in the form of manure. Manure at present is expensive and scarce, therefore do not grow weeds.

The Corporation allotments are about to be judged and prizes given for intelligent cultivation. It is well, perhaps, to point out here, that to win a prize a plot must first be free from weeds. The other points necessary are provision for successive crops, neatness of paths and borders, and the proper cultivation of five distinct kinds of vegetables. The judging this year will be carried out on somewhat different lines to last year. It is proposed that a local allotment committee should visit an outside area and recommend at a rate of one plot in ten. Then the selected plots to be finally judged by two or more competent horticulturists. The competition will be very keen, and it is believed that the prize winner of last year will have to be well prepared if he is to succeed this time.

Early Potatoes are being dug on mostly all plots throughout the city. Early Puritan and Epicure being most prominent.

Spraying has been started though the weather is not very suitable for it. The cost per spray per plot is estimated at 3s. The Land Cultivation Committee have given the use of 14 Knapsack sprayers to the Irish Plotholders' Union, and with a little good luck the operation ought not take long to perform. The practical agriculturist sprays his Potatoes principally on the under sides of the leaves; from this the plotholder should learn a lesson. The blight is found if carefully looked for early in the season on the under sides of the leaves in the form of minute brown spots. It is, therefore, advisable to spray early, and spray the undersides of the leaves as well as the top.

On many plots the stalks of Tripoli Onions have been cut; this is detrimental and should certainly be avoided. These stalks have their functions to perform—viz.: they manufacture plant food which is returned to the bulb. If the bulbs are showing signs of ripening they should be pulled and left to dry off gradually.

## The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### VEGETABLE GARDEN.

**KIDNEY BEANS.**—About the first or second week of the month make a final sowing of Kidney Beans. If a narrow border is available it would be a good plan to sow a few rows on it when a temporary frame could be placed over them in the autumn before early frost gets them.

Plant out Broccoli, Savoy and Borecole. If the ground is dry at the time of planting water must be given until the plants have started to grow. Look over Cauliflowers and any that are hearting break a leaf or two over them to prevent them from getting discoloured by the sun. Complete the planting out of Leeks and Celery as advised last month.

**CABBAGE.**—About the 20th of the month make a first sowing of Cabbage seed for spring cutting; Flower of Spring, April Queen and Ellam's Early are good varieties to sow now as they are not liable to run to seed. If sown in drills water well with a rose-can before covering in the seed; this will ensure rapid germination. Birds are not so troublesome at this time of year as they are in the spring, still it is as well to be prepared for them by placing a net over the seeds.

**TOMATOES** that have been planted out-door will now require some attention. Keep all side growths pulled off, pinch out the point of the main stem above the fourth or fifth truss of flower; feed the plants liberally as soon as one or two trusses have set their fruit.

**TURNIPS.**—Make a sowing of Orange Jelly and also some more of the white varieties; dust the seedlings as they come over ground with a mixture of soot and lime to ward off attacks of Turnip fly. Sow Lettuce and Endive for winter; use also a little more Chicory.

**SPINACH BEET.**—This is a most useful vegetable, especially in the spring when green vegetables are scarce. Prepare a piece of ground by deep digging and enrich with some good manure; sow thinly in drills fifteen inches apart, afterwards thinning the seedlings out to six inches apart; the thinning can be transplanted if required.

**PEAS.**—A mulch of manure laid along the rows of Peas will greatly benefit them by keeping the ground moist and cool about the roots, also acting as a stimulant after a shower of rain or when water is given.

#### THE FRUIT GARDEN.

**STRAWBERRIES.**—The layering of Strawberries should begin now. Those required for forcing should be pegged down in small pots, choosing the best runners for making new plantations out-door; clean and hoe between every second row, first carefully turning back the runners so as not to get trampled on. Scatter an inch or two of old potting soil or any other suitable compost over the ground just cleaned; then peg down all good runners from the rows of plants each side; cut clean away all bad or inferior runners. The plants that are in pots can also be stood in the same row; this will be a great convenience for watering, having so

many plants together and every second row vacant to walk in.

The Apple crop has not fulfilled my expectations when writing last month. Young trees have set their fruit fairly well, but older trees are in most cases carrying only half a crop. Newly planted trees have had a most trying time during the long spell of hot, dry weather that we have just experienced. Give a final thinning to Peaches and Nectarines on walls. They should by now have finished stoning and a good watering of liquid manure will greatly benefit them. Syringe frequently to keep down greenfly and other pests. The rather severe wind storm we experienced on June the 8th and 9th did a good deal of damage to fruit trees, some Apple trees being almost torn up by the roots. These had, of course, to have fresh stakes put to them and the soil pressed back firmly about the roots.

#### THE FLOWER GARDEN.

Herbaceous plants have done remarkably well this year. Delphiniums, Pæonies, and a host of other herbaceous plants flowering most profusely. Keep an eye to tall growing plants to see that none of the ties get loose; if they happen to get broken down their beauty is spoiled for the season.

Owing to the long spell of dry and very warm weather annuals and other summer bedding plants have had a rather bad time of it, especially on light, sandy soils. The use of the watering pot has had to be resorted to pretty freely, and this takes up a lot of time when there is so much other important work on hand.

Reg down Verbenas, Ivy Geraniums and other trailing plants; pick off all dead leaves and flower stems, and keep the beds free from weeds. Towards the end of the month start layering Carnations. Use a mixture of loam, leaf-mould and sand to root the layers in.

If mildew makes its appearance on Roses spray with sulphide of potassium; dissolve one ounce in three gallons of water and spray all the affected parts. Root pipings of Pinks under a frame in some shady spot. Keep flowers pulled regularly of Sweet Peas and water the plants occasionally with weak liquid manure. Keep a sharp look out for Red Spider on Violets. If the ground is dry water well at the roots and syringe the foliage. Keep all runners pulled off as they appear.

### Midland and Northern Counties.

By E. RUTHERFORD, Late Gardener to C. W. DUNBAR BULLER, Esq., D.L., Woburn, Donaghadee.

#### KITCHEN GARDEN

**CAULIFLOWERS.**—Early Cauliflowers that are coming to maturity require some protection. Bend some of the leaves over those not quite ready for use to protect the heads. Plants with fully developed heads that are not required for present use should be pulled up by the roots and placed in a cool shed. Cauliflowers develop rapidly at this season. Caterpillars should be destroyed by hand picking; if neglected they will do a lot of damage.

**SPRING CABBAGES.**—Make a small sowing of Cabbage to obtain plants for an early supply. Choose an open situation where the ground is not too rich, and sow the seeds thinly in drills four-

teen inches apart. Protect the seeds from birds. Flower of Spring and Early Offenham are good sorts.

**LEeks.**—The earliest batch are growing well and they should not be allowed to suffer for want of water. Give liquid manure from the farm-yard.

**COLEWORT.**—This useful vegetable should be planted towards the end of the month. Choose rich ground and allow the plants a space of sixteen inches each way. Water if necessary.

**BROCCOLI.**—Where old Strawberry beds have been cleared off the ground may be planted with late sown plants on April Queen and Victory Broccoli. After the Strawberries have been removed hoe the soil well and rake the surface, but do not dig the beds, as firm soil is best to produce strong plants to withstand the winter. Make the holes by means of a small crowbar. In dry weather water the roots until the plants take hold of the ground.

**WINTER GREENS.**—Continue to plant winter crops as the ground becomes vacant.

**EARLY POTATOES.**—These should be lifted as soon as ready in order to prepare the ground for some winter crop.

**ONIONS.**—Spring-sown Onions should, during dry weather, be well watered with liquid manure, and occasional light dressing of artificial manure. Watch for any signs of the Onion grub and be prepared to spray with paraffin emulsion.

**CELERY LEAF BLIGHT.**—This fungoid disease has been very prevalent in some districts for some few years past, and it is almost impossible to save them once they are badly attacked. Spray with a mixture of copper sulphate 1 lb., lime fresh, 1 lb. to 10 gallons of water. Spray at intervals of three weeks during growing period. Where plants have been attacked burn all leaves removed from the plants.

**PARSLEY.**—Make a sowing of Parsley to provide plants for use during the winter and spring. Do not sow in rich soil but on poor ground, as the plants will be better able to withstand the cold winter. A sheltered position is best. Plants from this sowing may be transplanted to sheltered positions.

**LETTUCE.**—Continue to make frequent small sowings of Lettuce where a constant supply is required. Transplant as soon as the plants are fit to handle.

**PEAS.**—As soon as the late sown ones are sufficiently advanced stakes should be placed in position and made secure.

**CARROTS.**—Young Carrots sown last month will soon be fit for thinning. Dust frequently with soot. Keep free from weeds by frequent use of the hoe.

**VEGETABLE MARROWS.**—Give a liberal supply of liquid manure at the roots during dry weather, and cut the Marrows as soon as fit for use.

**SHALLOTS** which are full grown should now be taken up. The leaves begin to wither when the bulbs have attained their full size. Place them on a hard surface where they will get full benefit of sunshine to ripen the bulbs; when ripened place in a cool shed where they will get plenty of light.

**REMARKS.**—All ground vacant by the removal of crops should be immediately re-cropped. If pits are available they should be filled with French Beans as soon as possible to furnish a late supply. The seeds should be sown in rows, and the seedlings afterwards carefully thinned to give light and air. Apply water freely as soon as the plants are well through the surface. During fine weather

keep the hoe going among growing crops and attend to weeding. Asparagus beds should be kept free from weeds.

### THE FLOWER GARDEN.

**FLOWER BEDS.**—Give attention to the flower beds and remove faded flowers, dead leaves and seed pods, that the plants may have a long season of blooming. Keep the surface stirred with the hoe until the surface is covered with the plants.

**DAHLIAS** are now growing fast and will need attention. Strong stakes should now be placed in position. All weak growths should be cut out, especially from old plants, the young shoots being tied in. During dry weather they require plenty of water or weak liquid manure. Keep the surface well stirred with the hoe.

**PINKS** should now be propagated. Trim the lower leaves of the pipings and insert the cuttings into a shallow frame, using a light, sandy soil. Water with a fine rose and keep close. Shade the frame from strong sunshine.

**VIOLETS.**—If the plants are on a warm border red spider often attacks them. Syringe occasionally with some insecticide. Runners should be pinched back to within two eyes. Keep the plants growing so as to make good crowns for planting in frames later on.

**EARLY-FLOWERING CHRYSANTHEMUMS** should now be staked before the plants become knocked about with wind and rain. All pinching should now be discontinued. Keep the young shoots neatly tied to the stakes before they become too large.

**HERBACEOUS BORDERS** will now require frequent attention. All dead flowers and foliage should be removed. Any plants requiring stakes should be attended to. Keep the borders hoed and weeded.

### THE HARDY FRUIT GARDEN.

**AMERICAN GOOSEBERRY MILDEW.**—Keep a careful watch for any signs of mildew; the fungus is usually found on the tips of the young growths. Cutting off the ends of the mildewed shoots and burning them is to be recommended. After the fruits are gathered spray the bushes with a solution of Liver of Sulphur, 1 lb. to thirty-two gallons of water. But in bad cases burning the bushes is the only remedy. If unable to burn where growing, spray with a strong solution of Liver of Sulphur, 1 lb. to each gallon of water, and after a few days the bushes may be grubbed out and burned.

**FRUIT PICKING.**—This requires daily attention at this time. Advantage must be taken of fine days to gather any ripe fruit for preserving. Raspberries must be pulled every few days, as they quickly get bad if allowed to become over-ripe.

**APPLES AND PEARS.**—The summer pruning of these still require attention. Pyramids and bushes should have all gross growth removed where possible. Trees that are carrying light crops of fruit are making strong growth, which will require severe pruning later on.

**STRAWBERRIES.**—When the fruit has been gathered remove the net when dry and store away. Beds that are to be kept for another year should be cleared of the runners, except those required. Remove all weeds and hoe the ground. Strawberries can now be layered. The best layers are obtained from year old plants. No plants should remain in the ground more than three years.

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# Irish Gardening

## Contents

	PAGE
<i>Pancratium illyricum</i> (Illustrated) . . .	113
The Genus <i>Vella</i> (Illustrated) . . .	115
Notes on Some Half-hardy Plants . . .	116
The Rock Garden . . . . .	119
July Plants and Flowers . . . . .	120
Maintaining the Food Supply . . .	120
The Persian Bellflower . . . . .	121
Gardeners and Foresters under the De- partment of Agriculture . . . . .	121
Correspondence . . . . .	121

	PAGE
Fruit Crop and Fruit Crop Prospects (Ireland), 1918 . . . . .	122
Fruit Crop (1918) . . . . .	124
Royal Horticultural Society of Ireland .	125
Suggestions to Allotment Holders for Autumn Treatment of Land . . .	126
The Month's Work—	
Southern and Western Counties .	127
Midland and Northern Counties .	128



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# IRISH GARDENING

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ARBORICULTURE IN IRELAND

VOLUME XIII  
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1918

EDITOR J. W. BESANT

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## Pancratium illyricum

### And other Half-hardy Plants of the Amaryllidæ

THE natural order Amaryllidæ contains many interesting and beautiful plants—some well-known and appreciated, like the Daffodil, and others not so well known, though none the less lovely. The majority, however, are not so hardy and accommodating as the Daffodil, and require care in selecting positions for them, hence they may be termed half-hardy, though the amount of protection required is governed entirely by local conditions of soil and climate. Too little regard is paid to the soil in considering whether a plant may safely be planted out. Gardening people know well that oftentimes a plant will survive and flourish in a seemingly cold district, and perish where the climate is much warmer; the cause is usually to be found in the nature of the soil. A porous well-drained soil is more favourable to plants of doubtful hardiness than a stiff, wet soil, and a soil containing a good proportion of natural humus, or decayed vegetable matter, is more suitable than one mainly composed of mineral matter, and which is inclined to become hard and impenetrable.

Some of the best known and hardiest of the Amaryllids are *Pancratium illyricum* and *P. maritimum*, the Belladonna "Lily," *Amaryllis Belladonna*, and several species and varieties of *Crinum*.

Where there is any doubt about suitability of the soil or climate it is best to plant in a narrow border at the base of a wall facing south. There a most interesting collection of plants may be grown. The wall may be furnished with interesting shrubs requiring pro-

tection, or the border may be adjacent to a greenhouse. Sometimes the rock garden may be made use of, as a sunny slope facing south is capable of providing a suitable home for many plants hailing from warmer countries.

*Pancratium illyricum* is shown in the present issue of IRISH GARDENING flowering quite happily on the rock garden at The Bush, Antrim. There the soil is of a loamy porous nature, and Mr. Barton grows many plants extremely well. *P. illyricum* is a native of Bosnia, Dalmatia, &c., and is generally fairly hardy. It has a large bulb from which arise long strap-shaped leaves surmounted in early summer by umbels of fragrant white flowers borne at the ends of stout main stalks. *P. maritimum* from S. Europe is a somewhat similar species with narrower leaves and white flowers, the central "cup" of which is finely fringed.

*Amaryllis Belladonna*, a delightful autumn flowering plant from S. Africa, is pretty generally known in gardens. There are several colour varieties varying from pale pink to reddish purple, the deeper shades being most effective. The leaves are produced in spring and summer, ripening off before the flowers appear. The base of a sunny wall is a suitable position to plant, and the soil should be well drained. Closely allied to the *Amaryllis* are the *Hippeastrums*, of which two species are hardy in sunny, sheltered positions, viz., *H. Ackermannii* and *H. pratense*. The former has large handsome flowers of a deep crimson produced in umbels on stout main stalks. The

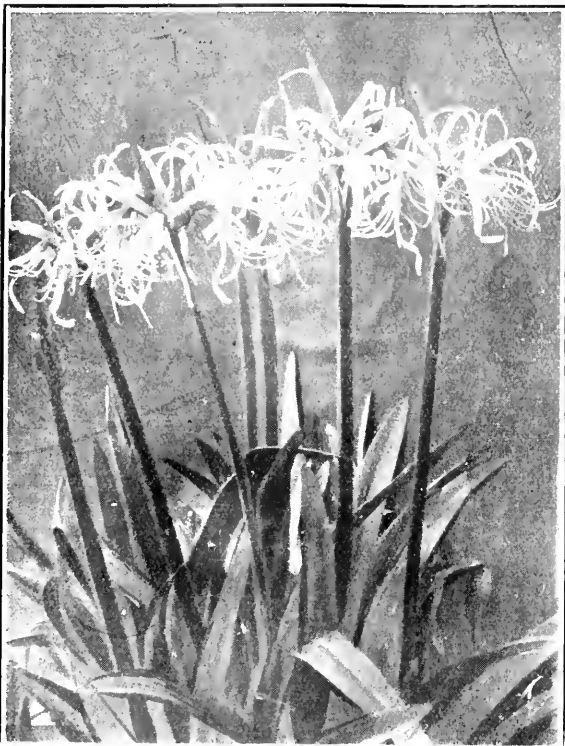


Photo by]

[R. M. Pollock

ELISENA LONGIPETALA AT GLASNEVIN.

leaves are broad and dark green in colour, well developed at flowering time, which is early July. *H. pratense*, a native of Chili, flowers in May and June, and is one of the most striking plants in the garden at that time. The flowers are a brilliant scarlet, the umbels being carried on stout stalks a foot or fifteen inches high; they appear in late May and early June. *Hymenocallis* is a genus allied to *Pancreatum*, and there is quite a number of purely indoor species of great beauty. Two, however, are nearly hardy, and are worth trying under the conditions alluded to; these are *H. Amantes* and *H. Macleana*, both from Chili and Peru. The former has large umbels of bright yellow flowers, the segments narrow and widely spread, while the latter has nearly white flowers fewer in the umbel, and broad, deep green leaves. A third species, *H. calathina*, is sometimes planted out in spring and lifted in autumn, being less hardy; it has fragrant white flowers marked with green.

*Elisena longipetala* is a striking and handsome plant, flowering freely every year in a narrow border adjacent to the Palm House at Glasnevin. The position is far from sheltered, being exposed to the east wind; nevertheless, the plant flourishes. The long, handsome

leaves are surmounted in July by stout flower stalks some 3 ft. high, each carrying an umbel of six or more flowers. The flowers are white, with spreading segments, the crown or cup being curiously flattened. The *Crimums* are striking plants, of which some five or six species and varieties are fairly hardy, while there are also many beautiful indoor kinds.

Of the hardy kinds none are better known than *C. Moorei* and *C. Powellii*, while the hardiest of all is *C. capense*, commonly called *C. longifolium*. The *Crimums* are characterised by their long, broad handsome leaves, sometimes of a glaucous hue, and stout flower stalks carrying umbels of flowers numbering often from six to thirty, and opening in succession.

*C. capense* is a handsome species with white flowers, often tinged with red on the outside. There are several varieties or forms, the best having large flowers and long, broad glaucous leaves. *C. Moorei* from Natal is very fine, with broad green leaves and umbels of large white flowers faintly flushed with pink. There is also a pure white variety. *C. Powellii* is a hybrid between *C. longifolium* and *C. Moorei*, and bears umbels of pink flowers, while of this there is also a white variety, and other forms varying in shade of pink.

*Sprekelia formosissima*, a native of Mexico and Guatemala, is a handsome plant allied to *Amaryllis*, and requiring a warm, sunny position and well-drained loamy soil. The flowers are large, of a fine crimson colour, borne on stout stalks some 18 in. high.

*Chlidanthus fragrans* is a showy little plant from S. America, producing fragrant yellow flowers in July; sandy soil and a sunny position are necessary.

*Lycoris squamigera* from Japan has rosy lilac flowers in umbels, and long strap-shaped leaves.

The genus *Zephyranthes* contains many lovely species, three or four of which are hardy in shelter. They are characterised by their narrow leaves, and the flowers produced singly on stalks 6 in. to a foot high; the best for outdoor culture are *Z. Atamasco*, white; *Z. candida*, white; *Z. carinata*, pink; and *Z. rosea*, rose pink.

*Bomarea salsilla*, native of S. America, is a twiner suitable for planting at the base of a sunny wall, where it can make its way up among the branches of some wall shrub. The flowers, resembling *Alstroemeria* in shape, are light purple in colour, the segments tinged with green.

The main point to observe in planting all the foregoing plants is to plant deeply, so that the bulbs may, as far as possible, escape frost.

Large bulbs like the *Crinum*, *Amaryllis*, *Pancratium* should be at least 9 in. below the surface, but smaller bulbs may be 6 in. In the event of prolonged severe weather, a covering of ashes or fine dry soil may be spread over the surface to a depth of several inches.

Dublin.

B.

## The Genus *Vella*.

By R. LLOYD PRAEGER, B.A., B.E.

THE genus *Vella* is interesting for several reasons. First, it is an unusually small plant group, numbering only three species. Secondly, —these are all confined to a limited area, two in Southern Spain, and one on the opposite side of the Strait of Gibraltar, which suggests that the genus originated within this region, and did not come, like the majority of our Western European genera, from the large land areas to the eastward. Again, *Vella* appears to be the only genus of the great order Cruciferae, which is completely shrubby in habit. It is closely allied to the cabbages and turnips, but its three species differ widely in appearance from these, being little dense, small-leaved shrubs, obviously adapted to life in a poor soil, with a scanty water supply. Two out of the three known species are in cultivation. *V. Pseudocyttisus* forms a twiggy bush several feet high, easily recognised by its cabbage-like four-petalled flowers (fig. *a*, p. 118), and its rough spathulate leaves (*b*). The petals are of uniform intense yellow colour, very narrow below,

broad and rounded above, and the flowers are borne on a spike which is over half a foot long when full grown. My plant forms a rounded shrub 3 feet high and 5 feet across, with a stem 8 inches in diameter at the base. I have not seen ripe seed on it.

*V. spinosa* is a much smaller thing, forming a little round thorny bush, a foot high, with hairy, linear leaves and buff petals veined with purple. The way in which the thorniness is produced is interesting. The inflorescence is branched, and the branches bear flowers, leaves and thorns. After blossoming the flowering shoot dies, and remains as a thorny mass among the leafy branches, which are destined to flower next year (fig. *c*). A precisely similar arrangement is to be seen in *Alyssum spinosum*, which is also a Crucifer. The seed-pod of *V. spinosa* is very curious. The young pod is egg-shaped, and covered with a long triangular flat beak (fig. *c*). When mature, all that remains of the beak is the two veins which ran along its outer edge, and the seed-pod has a remarkable resemblance to a spider with its legs pointing forward (fig. *d*). *V. spinosa* forms an attractive little shrub for the rock garden. My plant, which is a foot high and a foot and a half across, has been a mass of flowers during the first half of June, as *V. Pseudocyttisus* was during the second half of April.

The third species of *Vella* *V. spathulata* is not, I believe, in cultivation. It grows in Algeria, and is well figured in Cosson's "Illustrationes Florae Atlanticæ" (Vol. I., plate 48). It is in appearance intermediate between the



PANCRATIUM ILLYRICUM AT THE BUSH, ANTRIM.

two species already dealt with—a dense little shrub with many erect branches clothed with ovate leaves.

The Vellas betray their relationship by possessing, at times at least, a smell of rotten cabbage. Though coming from so far south, they appear perfectly hardy, at least in Dublin.

## Notes on Some Half-hardy Plants.

By SIR JOHN ROSS OF BLADENBURG.

ALTHOUGH the past winter was not on the whole a very severe one, yet there were short periods in which the thermometer sank to a lower level than was the case in normal years, and upon one occasion it registered nearly 16 degrees of frost, which was about the lowest reading I can remember in Rostrevor—at least in recent years. These spells of exceptional weather were bound to produce an effect upon half-hardy plants; but the losses incurred here would have been probably few had it not been for the unusually long period of cold that marked the season 1916-17. As a result of that winter many of these plants that escaped actual destruction were weakened, and though they showed signs of rapid recovery and were doing well during the summer of 1917, yet they had not sufficient vitality to resist the keen frost that occasionally visited us last winter, and some of them perished in consequence. Nevertheless a large proportion survived, and it is to be hoped that they may eventually prove their hardiness in the milder parts of Ireland. The attempt to try and acclimatize plants of unknown or of doubtful hardiness is not without its fascination, and though it is accompanied by many failures and by very many disappointments, it does no doubt commend itself to those interested in horticulture, who would be glad to know whether they have a chance of success with plants out of doors that are usually described as only suitable to a greenhouse. It must, however, be observed that it is not only frost that occasions losses, for there are many other conditions that have to be taken into consideration. The healthiness and the size of the specimens that are put out; their subsequent cultivation and the care they receive; the attention paid to their special requirements; the chance whether the first two or three cold seasons after planting are favourable or the reverse; the position and aspect selected, the proper shelter from cutting winds, the nature of the soil, &c., are all of much importance, and if failure follows it is not always due to

climate. While it is to be remembered that the atmosphere in Ireland is humid, and some plants, though they do not fear a little frost, are very sensitive to damp. The fact that the past two winters were more severe than is ordinarily the case may give us some experience in the matter of acclimatization, and perhaps a few notes on some of the half-hardy plants growing here may not prove wholly without some interest.

The *Acacias* form an important genus of evergreen trees, most of them from Australia, with flowers usually scented and of various shades of yellow, from pale sulphur to bright gold. Four species have survived. *A. armata* is one of the best of them, with small dark-green leaves; it grows slowly, but was quite untouched during the past two winters. *A. dealbata* has finely divided pale green foliage. *A. decurrens* resembles it, but does not flower so plentifully. *A. melanoxylon*, the Blackwood of Victoria, with entire, somewhat leathery, leaves, is a handsome tree, and in April it scents the air with its sulphur-coloured bloom. The best specimen here, some 30 feet high and 33 inches in girth, seemed to suffer more from the cold than the others. I was disappointed with *A. verticillata*, which appeared to be quite as hardy as the four above-mentioned, and several large bushes of this desirable species were growing for some years as if they were well established; but they were all of them much damaged during the winter before last, and though they began to recover in the summer, the subsequent frost killed them outright. A similar fate befell *A. baileyana*, with minutely divided grey foliage. *A. calamifolia* is the most floriferous of the lot, blooming from October to May, and after doing here uncommonly well for several years was destroyed by the cold of 1916-17. *A. alata*, with winged branchlets, and looking somewhat like a large Elk Horn Fern, also failed, as did also *A. pulchella*, quite one of the best both for foliage and for its bright flowers. These two species had been out of doors unhurt for some years. Another interesting group of Australian trees is the *Eucalyptus* genus, of which there are many—*E. coccifera*, *E. globulus*, *E. urnigera*, &c.—known to be hardy. Some five and twenty or more species were uninjured, including *E. amygdalina*, *E. cinerea*, *E. MacArthurii*, *E. Muellerii*, *E. obliqua*, *E. stellulata*, *E. vernicosa*, *E. acervula*, and *E. haemastoma*, were very slightly touched. *Juglans boliviana*, a rare Walnut, from South America, and all the Southern Beeches, including *Nothofagus Menziesii* and *N. procera*, have escaped.

*Cytisus proliferus*, from the Canary Islands, had grown, sheltered by a wall, to tree-like

dimensions, but it was badly injured the winter before last, and recovery is doubtful. On the other hand, *Genista elegans* (which is not, I believe, its true name) does well close by. It forms a large, spreading bush against the wall, with glaucous-grey foliage and clusters of deep yellow pea-like flowers, sweetly scented, quite a pleasing sight at all times. Allied to *Cytisus* are *Calycotome spinosa*, from the Mediterranean region, and *C. infesta*, from Dalmatia; they are somewhat like the common broom, but are armed with strong thorns. *Anthyllis Barba Jovis* is quite hardy without wall protection, and has dark grey foliage with sulphur-coloured flowers, that have the appearance of heads of clover. *Swainsonia galegifolia*, from Australia, has survived. The form, var *alba*, is a desirable climber, with pure white pea flowers. A large specimen of *Clanthus puniceus* was, however, badly injured, but is now recovering. Belonging to the Myrtle Order, most of the *Callistemons* seem to be hardy, and as they are very handsome shrubs, they deserve a place in a favoured district. The *Melaleucas* are more tender, and the past two winters killed several that had lived out of doors here in an ordinary mild season; *M. armillaris* has, however, survived, and may succeed. *Metrosideros hypericifolia*, *M. lucida*, and, I think, *M. diffusa* are hardy. *Myrtus bullata* and *M. obovata*, both from New Zealand, and *Eugenia myrtifolia*, from Australia, have survived, with little or no injury. *Feijoa sellowiana* is a beautiful evergreen from Brazil, with a remarkable inflorescence, bright carmine and white bracts, and is none the worse for the past two winters. Among the Fuchsias, *F. cordifolia*, *F. excoartata*, *F. microphylla* (often called *F. reflexa* in gardens), *F. serratifolia*, *F. thymifolia* (a very fine species, with small bright-red flowers), *F. procumbens*, are growing satisfactorily. The same may be said of *Senecio Hectori*, *S. rotundifolius*, and of *S. Buchananii* (but *S. glastifolius* and *S. perdicoides* did not prove hardy); also of *Proustia pyrifolia*, and of *Mutisia decurrens* and *M. ilicifolia*; *M. Clematis*, from Peru, lives out of doors, but it cannot be regarded as a success.

*Hoheria populnea*, of the Mallow Order, from New Zealand, and *Visnea mocanera*, allied to *Camellia*, from the Canary Islands, are both growing very well. The following, moreover, appear to be hardy:—*Aristolelia fruticosa*, *Cyathodes robusta*, *Gordonia anomala*, *Hibbertia Readii* (a charming little shrub from Australia, of a somewhat trailing habit, and covered in spring with numerous small, bright yellow flowers), *Jacobinia pauciflora* (*Libonia floribunda*, from Brazil), *Litsaea japonica*, *Pimelia longiflora*, and *Weinmannia racemosa*.

*Leucopogon Richei* and *Styphelia fasciculata*, however, were slightly injured; but *Westringia rosariniformis*, growing for some years well on a south wall, was very much damaged. *Bowkeria triphylla* is an interesting shrub, from South Africa, which becomes a fair-sized bush, and has in autumn large white flowers, resembling a *Calceolaria*; it is sometimes cut down by a severe frost, but nevertheless it is well worth trying in good shelter. *Calceolaria alba*, *C. integrifolia*, *C. Sinclairii*, *C. violacea* are hardy, but it is well to keep plants in reserve, as they are liable to fail from various causes. I have not yet been able to succeed with *C. fuchsiaeifolia*. *Cantua buxifolia*, which does so well at Old Conna Hill, survived the winter of 1916-17; it was then cut down, and made a good growth the following summer, but the frost of last season caused it to fail. The same happened to *Peumus Boldus*, a very handsome Chilean evergreen, with grey-green, polished and highly-scented leaves, which had lived out of doors for several years; it must, however, be added that the specimen had to be moved shortly before the first severe winter, and it was probably in no condition to stand the exceptional cold that then took place. Its ally, *Laurelia serrata*, also from Chile, was quite untouched.

*Convolvulus Cneorum*, an upright shrub, with silvery-grey foliage and white flowers, and *C. mauritanicus*, a trailer, from North Africa, with blue flowers, are well known, but I do not think *C. tugurorum* is quite so common. It came here from the late Canon Ellacombe's famous collection at Bitton Vicarage, and is a shrubby trailer, suited to scramble over a sunny rock, with small, white leaves and large pure-white flowers, that open in summer; a native I believe of South Europe. It appears to be quite hardy, and is only mentioned here because I know so little about it, and because it is a very desirable addition to the wild garden. *Calystegia macrostegia*, a climbing shrub, from Lower California, allied to *Convolvulus*, grew vigorously for many years until last winter, when the frost killed it; the bloom is not remarkably beautiful. *Ceratostigma Polhillii*, from Western China, has only been outside one season, and it came through the ordeal safely; it is much more shrubby than the older and better-known species, *C. plumbaginoides* (known sometimes in gardens as *Plumbago Larpentae*), and has blue flowers in autumn. It had been planted outside before without success in a milder winter, showing probably that the specimens then put out were not sufficiently mature. The same result was experienced with *Amphicome arguta*, a very handsome plant of the *Bignonia* Order, native

of North India, fine pinnate foliage, very floriferous, with clusters of large rosy-pink flowers. *Sollya heterophylla* has been grown here without difficulty for more than twenty years, but the last two cold seasons destroyed it. Its variety, *Drummondii*, with the same bright-blue flowers, only smaller, and with a finer foliage, appears to be more tender, and has never yet been successful here. Nor has *Rhabdanthus Solandri* been hitherto established out of doors, though it has survived unhurt an ordinary mild winter. It is a very charming little shrub, from New Zealand, with

early this year; it is a very handsome foliage plant, but it has not yet flowered. Among the Conifers, *Phyllocladus trichomanoides*, *Dacrydium Franklinii*, *D. cupressinum*, *D. Colensoi*, *Podocarpus nivalis*, *P. Nageia*, and others, *Actinostrobus pyramidalis*, *Juniperus Cedrus*, and *Callitris oblonga* were uninjured; but *Podocarpus elongata*, from South Africa, suffered, while *Callitris verrucosa* failed last winter, though it survived the cold season the year before with little or no damage. *Tetradlepis articulata*, partly cut down then, has been absolutely untouched ever since. *Kete-*



THE GENUS *VELLA* (page 115).

pale-green leaves and orange bell-shaped flowers, netted with dark lines.

Of plants belonging to the interesting Proteaceous Order, *Isopogon latifolia* and *Grevillea alpina* were killed in 1916-17. *Banksia integrifolia* was injured, recovered, and then failed last winter. *Hakea ulicina* was untouched; *H. pugioniformis*, *H. glabella*, and *Stenocarpus salignus* were only slightly hurt; *Hakea florida* more damaged, but recovering; *Lomatia ferruginea*, *L. longifolia*, and *L. tinctoria*, as well as *Dryandra formosa*, escaped, and are all growing very well; the last-named species had only been put out permanently in the spring of 1916, and the long cold of the winter following did not appear to affect it in any way; some of the leaves, however, were singed by the frost and by the east winds that prevailed

lania *Tortunei*, a native of China; *Cupressus kashmiriana*, the beautiful blue-tinted Cypress of Asiatic origin; *Libocedrus macrolepis*, from Yunnan; *Pinus canariensis*, *P. oocarpa*, *P. patula*, *P. teocote*, the best tree, from Mexico, appear hardy; but *P. longifolia*, a native of North India, failed. *Washingtonia filifera*, a Palm from California, survived until last winter. *Musa Basjoo*, from Japan, grows indifferently, but some of the Bromeliads, *Pitcairnia coerulea*, *Puya chilensis*, *P. spathacea*, *Rhodostachys pitcairneae-folia*, and *Bilbergia nutans*, are doing remarkably well. *Beschorneria yuccoides*, a fine plant of the Amaryllis Order, and a native of Mexico, seems hardy if protected from the damp. It grows very well at Howth Castle, where it often displays its wonderful flowers.



## The Rock Garden.

CONSIDERING the long spell of drought the display of flowers on the rock garden has been astonishing, and up to the time of writing (15th July) this part of the garden has seldom been more attractive. Campanulas have held sway, and surely there is no more charming genus at this time. All sorts and sizes have flowered profusely, and attracted much attention. The pretty little *C. arvensis*, formerly known as *C. acutangula*, has been a perfect carpet of blue. The old and well-known *C. G. F. Wilson*, with its deep blue nodding flowers hiding the leaves, made a glorious mass. *C. carpatia* Ditton Blue is a fine form of the Carpathian Bellflower, while *C. garganica hirsuta*, with its hairy leaves and pale blue flowers, always pleases, as does its pure white variety. *Campanula Hillside Blue*, a robust erect growing *carpatia* form or hybrid, is one of the best plants for the rockery or front of the herbaceous border; growing from a foot to fifteen inches high, it bears masses of good blue flower from July onwards into the autumn. In the moraine *C. Tommasiniana* is now a rounded mass of its wiry stems clothed with narrow, slightly toothed, leaves, and bearing on each shoot from 6 to 9 of its long slender flowers. Near by it, *C. excisa* is doing well, but often suffers in winter, sometimes disappearing entirely. The true *C. Raineri* is one of the most attractive of all bellflowers, hardly exceeding a couple of inches in height when in flower, and by means of its rhizomes forming quite a carpet. The flowers are large, and practically hide the shoots and leaves; gritty soil is necessary. Seeds are freely produced as a rule, and germinate readily. The seedlings vary in size and colour of flower, some being small and pale, others large and darker blue; the best forms may be kept for planting and the others discarded.

The *Hypericums* are among the most delightful of alpine in early July, and few plants give more pleasure than *H. cuneatum* with prostrate wiry stems clothed with tiny glaucous leaves, the flower buds being as red almost as sealing wax, the flowers opening in the sun a bright yellow; a native of Asia Minor and Syria, a sunny position is necessary, and in our climate protection from winter damp. *H. nummularium*, with rounded heart-shaped leaves and starry yellow flowers, is most effective; others are *H. coris*, *H. reptans*, *H. cuspifolium*, *H. ægyptiacum*, *H. crenulatum*, and *H. repens*, all good and choice Alpines.

Primulas are practically over, but in the early part of the month *P. tibetica* was at-

tractive with heads of bright pink flowers on stems arising from rosettes of small leaves, the whole plant not more than three inches high.

Gentians are represented in July by several very fine species, notably *G. Freyniana*, like a glorified *G. septemfida*; the flowers, borne in clusters at the ends of the shoots, are large and of the finest gentian blue. *G. Septemfida*, rather smaller, and with somewhat paler flowers, is also very fine.

*G. dahurica*, recently introduced in quantity by Mr. Farrar, is a welcome July flowerer, with long prostrate loose sprays of bright blue flowers, green on the outside; the leaves, some 6 in. by  $\frac{3}{4}$  in., are strongly veined. The plant grows well in deep gritty loam.

Herbaceous plants have flourished since the rain came, and the borders of perennials are now a blaze of colour. Outstanding plants are *Scabiosa caucasica*, *Coreopsis grandiflora*, *Salvia nemorosa*, *Campanula lactiflora*, *Delphiniums*, *Dictamnus albus purpureus*, *Erigerons*, and many others. Others requiring more moisture, and, therefore, grown in the bog garden, are *Astilbes* in many varieties, pink and creamy white; *Iris aurea*, *I. Monnierii*, and others of the same class. A couple of interesting plants for a sunny, dry position at the base of a wall are *Lobelia Tupa*, with large hoary leaves and spikes of dark crimson flowers, and *Thunbergia natalensis* growing about 18 in. high, with densely leafy shoots, and large flowers, with a yellow tube, the upper part of the corolla being blue; an interesting and pretty plant for a warm corner. *Pentstemon isophyllus*, with glaucous leaves and ruddy stems, requires a similar position to survive the winter. The flowers are long, narrow and tubular, red outside, paler within, but with darker lines.

J. W. B.

Glasnevin.

**The attention of Subscribers is requested to the Notice on page v. regarding Subscriptions.**

## July Plants and Flowers.

SINCE writing the notes on June flowers a welcome change has come over the garden, due to the copious rains which have fallen intermittently since the 9th, when a thunderstorm broke the long spell of drought and harsh wind. The change was welcome, more particularly as we are aware that food crops are more important than flowers, and the country was greatly in need of rain.

Since our last notes were penned in the middle of June there has been no diminution in the floral display, though shrubs, perhaps, have been less in evidence, and herbaceous plants more conspicuous. Among shrubs:—

*Desmodium serriferum*, a new species from China, has been rather attractive on a south wall. The leaves, made up of three leaflets, are quite downy, as also are the shoots, while the flowers, produced in racemes at the ends of the shoots and in the axils of the upper leaves, are rose-purple in colour.

*Veronica Ruby Tinge*, an attractive variety of garden origin, is useful for the front of a shrubbery, and would make a pretty bed. The leaves are rather like those of *V. buxifolia*, and the flowers are pretty well described in the varietal name.

*Carmichaelia Kirkii*, a New Zealander, is perhaps more curious than beautiful, but this matters not at all to the true lover of plants. It forms cord-like brown shoots, the younger ones bearing small trifoliate leaves; the pea-shaped flowers are borne in clusters at the nodes and are blotched and lined with purple or reddish purple.

*Philadelphuses* have been good; the best of the hybrids being *Virginale* with large semi-double flowers borne in great profusion. *Bouquet Blanc* is another fine variety, very floriferous while among the purple-blotched varieties *Oeil de Pourpre* is attractive, with larger flowers and a deeper "eye" than *purpureus maculatus*.

The old and valuable *Deutzia crenata* flowered finely, and holds its own well among the newer hybrids of *D. gracilis*, *discolor*, &c., the long arching shoots laden with white flowers being most effective. *Rubus nobilis*, a bramble with reddish purple flowers, like single roses, and ample three-lobed leaves, is not to be despised in July, though perhaps a trifle robust for a choice shrubbery; yet, in large gardens it may well find a place. *Genista Barnadesii* is a dwarf spiny shrub for the rock garden. A

slow grower, reminiscent of a strong-growing *Erinacea pungens*, but with yellow flowers. There are few true leaves, the plant consisting mostly of a dense mass of spiny branches, with the comparatively large flowers produced in pairs.

## Maintaining the Food Supply.

ALL indications point to the necessity of maintaining food production at the highest possible point, and every provision must be made for filling up ground which becomes vacant during summer and autumn.

August is an important month in the vegetable garden, and much can be done to provide material for planting in September and October.

Early Potato ground or sections from which early Peas, Beans and Tripoli Onions have been cleared may be planted up with Savoys, Broccoli, &c., but, to give these justice, they should be planted by the middle of July. Any space vacant later, say by the middle of August, can be utilised as a seed bed for Cabbages, Tripoli Onions, Cauliflower and Lettuces to stand the winter. The soil must be broken down very finely, and, if possible a light application of rotten manure or decayed vegetable matter should be dug in not too deeply; this will retain the moisture, and encourage free growth, and also enable the plants to be lifted later on with some soil adhering to the roots, a great advantage to the young plants when transplanted. Good varieties of Cabbage to sow in August are Ellam's Early, Hurst's First and Best, Harbinger and Flower of Spring. Of Tripoli Onions good varieties are White Italian, Red Italian and Giant Rocca. Good hardy Lettuces to stand the winter are Stanstead Park and Hardy Hammersmith, Cauliflowers suitable for autumn sowing are Early London and Walcheren. Cabbages, Onions and Lettuces sown in the middle of August—not later than the 15th—will be ready for planting early in October, while any seedlings left over will be available for filling up blanks in spring, or for further planting then. Cauliflowers, it must be said, are not so reliable for wintering in the open. They are not transplanted into lines in the garden in autumn, and the usual plan is to transplant from the seed bed in the open to a cold frame, where, kept fairly dry during the depth of winter, and lightly protected during severe weather, they make good plants for putting out in April, and will be fit to cut towards the end of June.

On allotments, however, frames are not yet much in evidence, but satisfactory results are often got by transplanting the seedlings to another bed in the open, making the soil firm and not too rich, so that the young plants will make but little growth in autumn, and become sturdy and hard, thus enabling them to come through the winter. Another plan is to excavate a shallow bed, banking up the soil round the sides; this protects the young plants from the cold cutting winds of early spring. Seed beds for autumn seeds should not be made in a damp situation, as young plants which are to remain in them for the winter suffer more from excess of water than from cold.

GROWER.

## The Persian Bellflower.

### *Ostrowskia Magnifica.*

Thus, the giant of the *Campanula* family, as far as size of flower goes, is one of the most striking plants in the garden when flowering in the end of June and early July. By no means easy to establish, it nevertheless continues to flourish for years when happily placed. Coming from the sunny warm regions of Central Asia, heat is a necessity, and in our climate this can only be found outside in warm south borders, backed by a wall or greenhouse. The soil, too, should be deep and sandy, to allow of the development of the thick fleshy roots, and such a soil is also warmer in winter than a heavy one.

Young plants are best to begin with, and should be planted in spring when danger of frost is over. Not much growth will be made the first season, but annually it will get stronger, until finally the stout stems will bear the large 3 in. wide bells of pale blue.

The leaves are produced in whorls on the stems, and the total height varies from 4 to 6 feet, when the plant is doing well.

The best chance of success lies in choosing a sunny, sheltered position in deep, well-drained soil, and in putting out quite young plants and leaving them alone.

Seeds are sometimes obtainable, and should be sown as soon as procured. They will make but little growth the first twelve months, but form small fleshy root-stocks. After the first period of rest they may be placed singly in small pots and grown on for another year, when, if they have grown satisfactorily, some may be planted out, taking care to protect from snails and slugs. Spring is the best time to plant.

## Gardeners and Foresters under the Department of Agriculture.

ATTENTION is directed to the announcement in our advertising columns relative to courses of training in horticulture and forestry to be held during the year 1918-19 under the Department of Agriculture.

The Horticultural School attached to the Albert Agricultural College, Glasnevin, Dublin, will be open to two classes of resident students, viz.: (1) Horticultural Instructors in Training and (2) Apprentices. No applicant will be eligible for admission to the first mentioned course who has not had from 5 to 7 years' continuous experience of gardening. Applicants for admission as apprentices will not be required to have had any special experience of this nature.

Students admitted as Horticultural Instructors in Training will receive an allowance of 10s. per week and be provided with board and residence at the college. Apprentices will be provided with board and residence at the college, and will, after some months' training, be eligible to receive, in addition, an allowance of 5s. per week.

The Course for Horticultural Instructors in Training will provide facilities for the study of the sciences bearing on horticulture. Indoor instruction will be supplemented by work in garden and orchard, special attention being devoted to fruits, vegetables, plant diseases and insect pests. In the case of the apprentices outdoor instruction will be supplemented by special classes designed to enable an apprentice to understand the principles underlying horticultural practice.

Arrangements have also been made for a course of instruction for non-resident pupils, open to both male and female students. These students will be required to take part for 7 or 8 hours daily in all the operations carried out in the college gardens. They will, in addition, receive classroom instruction in the sciences bearing on gardening operations. No remuneration will be allowed in the case of these extern students. The instruction will be provided free.

Applicants for apprenticeships in forestry are not expected to have had any special knowledge of forestry, but preference is given to those who have had experience of work in woods. Apprentices will be allowed the minimum rate of wages fixed by the Agricultural Wages Board for Ireland in the case of agricultural workmen in the district in which the apprentice is working.

The Department also offer valuable scholarships in horticulture and forestry tenable at the Royal College of Science, Dublin. The scholarships are renewable for a total course of four years and enable the holders to obtain, free of cost, the most advanced technical and scientific training.

## Correspondence.

ESCALLONIA PHILIPPIANA AND LIME.

MR. HUM BLAND of Blandsfort, Abbeyleix, writes:—"There is a plant here, on the vilest of limestone, 20 odd years old. It is just now in the finest bloom I have ever seen it. I do not think lime can be the trouble."

# Fruit Crop and Fruit Crop Prospects (Ireland), 1918.

NOTE.—The reports here compiled refer to the crops and prospects as far as ascertainable in mid-July. In order to secure as much uniformity as possible in the Returns a scale of descriptive terms was agreed upon—viz., (1) very good, (2) good, (3) average, (4) below average, (5) bad. The names of the County Horticultural Instructors are starred (\*).

County and Locality	Apples	Pears	Plums	Cherries	Gooseberries	Currants	Raspberries	Strawberries	Name of Correspondent
<b>ULSTER</b>									
<i>Antrim</i> —County . . .	Bad	Bad	Bad	Below av.	Below av.	Below av.	Below av.	Average	R. H. Clarke *
The Bush . . .	Bad	Bad	Below av.	—	Below av.	Below av.	Below av.	Below av.	H. D. M. Barton
Shane's Castle . . .	Below av.	Bad	Average	Average	Good	Below av.	Bad	Average	W. G. Neave
Drumalis . . .	Bad	Bad	Bad	Average	Average	Average	Good	Good	J. Guy
<i>Armagh</i> —County, South . . .	Below av.	Below av.	Bad	—	Very good	Good	Average	Good	J. Tunnington *
" " North . . .	Below av.	Bad	Bad	Below av.	Very good	Good	Good	Good	J. Hagan *
Loughgall . . .	Good	Bad	Bad	Below av.	Good	Very good	Below av.	Good	W. R. Spencer
Richhill . . .	Bad	Bad	Bad	—	Good	Good	Below av.	Below av.	C. Lamb
Annaghmore . . .	Bad	Bad	Bad	—	Average	Very good	Average	Good	J. J. W. Dunlop
<i>Caran</i> —County . . .	Below av.	Bad	Below av.	Bad	Very good	Very good	Very good	Good	J. Meehan *
<i>Down</i> —County . . .	Below av.	Bad	Bad	Below av.	Very good	Very good	Good	Average	J. Dunne *
Carrigart . . .	Bad	Bad	—	Bad	Below av.	Bad	Bad	Average	
Mulroy . . .	Good	Average	Bad	Average	Very good	Very good	Good	Average	D. Frizzell
<i>Dun</i> —County, South . . .	Below av.	Bad	Bad	Below av.	Average	Average	Good	Average	D. Baillic *
" " North . . .	Below av.	Bad	Average	Below av.	Good	Bad	Average	Average	T. Stott *
Mount Stewart . . .	Very good	Below av.	Average	Below av.	Good	Very good	Good	Very good	T. W. Bolus
Moyaleen . . .	Bad	Bad	Bad	Average	Very good	Good	Bad	Below av.	Jas. Lynas
<i>Fermanagh</i> —County . . .	Very good	Bad	Very good	Good	Average	Average	Bad	Good	P. Brock *
Lisgoole Abbey . . .	Bad	Bad	Bad	Good	Good	Good	Bad	Good	J. Murphy
Balrimmallard . . .	Very good	Bad	Bad	Bad	Good	Good	Average	Bad	H. Burke
<i>Londonderry</i> —County . . .	Bad	Bad	Bad	Bad	Good	Below av.	Average	Below av.	A. M. L. May *
Derrywestown . . .	Below av.	Below av.	Average	Good	Very good	Good	Very good	Below av.	J. Diamond
<i>Monaghan</i> —County . . .	Below av.	Bad	Bad	Bad	Good	Very good	Below av.	Good	J. Toner *
Castleslane . . .	Bad	Below av.	Below av.	Average	Very good	Very good	Very good	Very good	R. Hanna
Rossmore Park . . .	Bad	Bad	Bad	Below av.	Very good	Good	Very good	Below av.	D. Morton
<i>Tyrone</i> —N. . .	Very good	Below av.	Bad	Average	Good	Average	Average	Good	F. W. Walker
Clogher . . .	Below av.	Av. on walls	Below av.	—	Average	Average	Bad	Average	D. M'Laren
<b>LEINSTER</b>									
<i>Carlow</i> —County . . .	Bad	Bad	Bad	Average	Very good	Very good	Good	Good	J. M'Kenzie *
Fenagh House . . .	Bad	Bad	Bad	Bad	Very good	Good	Good	Below av.	S. E. Colvin
<i>Dublin</i> —County . . .	Below av.	Bad	Below av.	Average	Very good	Very good	Below av.	Below av.	P. J. Gray *
Chintee . . .	Below av.	Bad	Bad	Below av.	Average	Average	Average	Below av.	W. Usher
Marley . . .	Below av.	Bad	Below av.	Bad	Very good	Very good	Good	Average	T. Gamage
<i>Glenmaroon</i> . . .	Bad	Bad	Bad	Below av.	Good	Average	Average	Below av.	W. E. Stevens
<i>Kildare</i> —County . . .	Below av.	Below av.	Below av.	Average	Very good	Very good	Very good	Average	W. Tyndall *
Kilcoo . . .	Very good	Bad	Bad	Bad	Very good	Good	Average	—	J. B. Plewman
Carrigrohilly . . .	Below av.	Below av.	Below av.	Below av.	Very good	Very good	Very good	Very good	A. Black
Moore Abbey . . .	Average	Below av.	Average	Bad	Average	Good	Good	Bad	C. Pilgrim
<i>Kilkenny</i> —Flood Hall . . .	Average	Below av.	Bad	Average	Very good	Very good	Very good	Below av.	J. Stark
Piltown . . .	Below av.	Bad	Below av.	Average	Good	Good	Average	Good	R. Dalton
Bessborough . . .	Below av.	Bad	Below av.	Good	Below av.	Average	Average	Below av.	T. E. Tomlin
Mount Juliet . . .	Bad	Bad	Average	Good	Bad	Very good	Average	Good	H. Hume
<i>Loughford</i> —County . . .	Below av.	Below av.	Good	Good	Very good	Very good	Good	Below av.	W. Johnston *
Castle Forbes . . .	Average	Below av.	Bad	Good	Very good	Very good	Very good	Average	J. A. Boyle
<i>King's</i> —County . . .	Below av.	Below av.	Below av.	Bad	Very good	Very good	Average	Below av.	E. Clarke *
Tullamore . . .	Bad	Bad	Below av.	Below av.	Very good	Very good	Good	Below av.	W. Roberts

<i>Louth</i> —County	Below av.	Average	Below av.	Average	Bad	Very good	Very good	Very good	Below av.	Jas. Harne
<i>Ravenstale Park</i>	Bad	Good	Below av.	Below av.	Average	Very good	Average	Good	Below av.	J. Camphre
<i>Meath</i> —County	Below av.	Bad	Bad	Bad	Average	Good	Very good	Good	Average	J. B. Clark
<i>Dunsany</i>	Bad	Below av.	Bad	Bad	Average	Very good	Very good	Good	Very good	J. B. Powell
<i>Rathfrigh</i>	Bad	Bad	Bad	Bad	Good	Good	Average	Good	Good	J. M. Keown*
<i>Queen's</i> —County	Below av.	Below av.	Bad	Below av.	Below av.	Good	Good	Very good	Bad	P. J. Mahon*
<i>Abbeyleix</i>	Below av.	Below av.	Below av.	Below av.	Average	Good	Very good	Very good	Below av.	P. J. Kane
<i>Wexford</i> —County	Bad	Bad	Bad	Bad	Average	Good	Good	Very good	Very good	G. McAlashen
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Bad	P. LeStrange
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Bad	J. Turner
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Average	W. Hillock*
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Good	P. Cullen*
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Below av.	W. H. Lee
<i>Wexford</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Below av.	J. Shivas
<b>MUNSTER</b>										
<i>Clare</i> —County	Below av.	Below av.	Below av.	Below av.	Good	Very good	Very good	Very good	Good	J. Grennan*
<i>Dromoland</i>	Below av.	Below av.	Below av.	Below av.	Average	Very good	Very good	Average	Below av.	J. Carter
<i>Carrigan</i>	Bad	Below av.	Bad	Below av.	Average	Very good	Very good	Below av.	Below av.	A. Barker
<i>Carrigaholt</i>	Bad	Bad	Bad	Bad	Bad	Very good	Good	Good	Below av.	P. H. Sullivan
<i>City</i>	Bad	Below av.	Bad	Bad	Average	Good	Good	Bad	Below av.	Jas. Blenens*
<i>North County</i>	Bad	Bad	Bad	Bad	Bad	Good	Good	Average	Bad	J. Deemalay
<i>South County</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Below av.	L. M. Cornick*
<i>Munster Institute</i>	Bad	Average	Bad	Average	Bad	Very good	Very good	Very good	Bad	S. E. Cavanagh*
<i>West County</i>	Bad	Average	Bad	Average	Bad	Very good	Very good	Average	Below av.	M. Punch
<i>Pota Gardens</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Very good	Below av.	T. Behan*
<i>Kerry</i> —County	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Below av.	E. Beckett
<i>Ballyheigue</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Good	W. F. Earle*
<i>Kilcooley</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Very good	Average	W. Barrett
<i>Clonmel</i>	Bad	Good	Good	Good	Good	Good	Good	Good	Below av.	Jas. Bracken*
<i>Kilshen</i>	Bad	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Average	D. Mezan
<i>Limerick</i> —East	Bad	Good	Good	Good	Good	Good	Good	Good	Below av.	E. Young
<i>West</i>	Bad	Below av.	Below av.	Below av.	Bad	Good	Good	Very good	Very good	A. Rogers
<i>Waterford</i> —County	Below av.	Below av.	Below av.	Below av.	Good	Very good	Very good	Good	Below av.	J. Keloe*
<i>Curraghmore</i>	Bad	Bad	Bad	Bad	Good	Very good	Very good	Good	Bad	J. Malone*
<i>Cappoquin</i>	Bad	Bad	Bad	Bad	Average	Very good	Very good	Good	Good	P. Harrigan*
<b>CONNAUGHT</b>										
<i>Galway</i> —County	Good	Good	Good	Good	Good	Very good	Very good	Good	Bad	P. J. M. Nicholas*
<i>Clonbrock</i>	Bad	Average	Average	Average	Good	Below av.	Below av.	Good	Below av.	T. Williams
<i>Long</i>	Below av.	Below av.	Below av.	Below av.	Below av.	Very good	Very good	Good	Bad	L. E. Clarke
<i>Mount Bellew</i>	Good	Good	Good	Good	Good	Average	Average	Below av.	Average	P. Cunningham
<i>Leitrim</i> —County	Below av.	Below av.	Below av.	Below av.	Below av.	Good	Good	Good	Very good	P. J. O'Carroll*
<i>Roscommon</i> —County	Average	Average	Average	Average	Average	Good	Good	Average	Average	G. Vennard*
<i>Mate Park</i>	Bad	Bad	Bad	Bad	Bad	Good	Good	Average	Average	E. Connor
<i>Boyle</i>	Average	Average	Average	Average	Average	Good	Good	Average	Average	Mrs. C. Smith
<i>Ballinacorney</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Average	M. Jordan*
<i>Ballinacorney</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Average	P. Tuohy
<i>Westport</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Very good	Average	R. Joyce
<i>Lissadell</i>	Below av.	Below av.	Below av.	Below av.	Below av.	Very good	Very good	Average	Good	H. Cousins
<i>Ard Cacin</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Average	Very good	Sir J. Gore Booth
<i>Collooney</i>	Bad	Bad	Bad	Bad	Bad	Very good	Very good	Good	Below av.	R. F. Brown
								Bad	Bad	S. Cole

## Fruit Crop, 1918

THE reports herein submitted to this JOURNAL show on the whole that the large fruits will be much below the average crop, though there was a profusion of bloom almost everywhere.

In well sheltered gardens and orchards and where the trees have received proper attention as to cultivation, manuring and spraying, the crop is very little below the average. In grass orchards where it has been found impossible to have the trees sprayed, the ground kept free from weeds, the crop is in many places a complete failure.

During the last twelve years many orchards have been planted on land near to the walled in fruit and vegetable garden in many noblemen's demesnes. In most cases the gardens receive good cultivation, the trees are well attended and with good results, whilst the orchard ground and trees receive scanty attention. I have been in a number of these places lately and though there is a fair to good crop of fruit in the garden there is practically none in the grass orchard, and the trees present a sickly appearance.

If remunerative crops of fruit are to be procured from grass orchards much more spraying will have to be done to the trees, and the ground around the trees will need to be kept more free from grass and weeds and also to be more liberally treated with manure.

The trees in general promised well early in the year. Frost and high winds, however, caused much damage not only to fruit trees but also to timber and hedgerow plants.

Fruit growers, especially in the western counties, have reason to remember the gale of 8th-9th June, as not only did it ruin the large fruit crop and broke off many of the branches, but it also knocked off many of the currants and gooseberries. The storm of 23rd May and the continuous harsh, cold nights and bright days of April and May ruined much of the fruit blossoms.

APPLES are on the whole from a below average to a bad crop, there being very few really good crops of apples either in private gardens or in commercial plantations. Cordon and wall trees are a good crop and the fruit is of good quality. It is certainly the worst Apple crop for many years.

Exposed orchards in grass are bearing practically no fruit. Trees of medium age appear to be bearing best. Of these Bramley, Beauty of Bath, Worcester, Grenadier, King of the Pippins, and Walsham Abbey are most prominent, also young trees of Rev. W. Wilks.

Years are almost a failure all over the country, there being very few good crops. The trees flowered extra well, but only on sheltered walls, or gardens, is there even a sprinkling of fruit. This is a loss to the country as imported fruit will be scarce.

PLUMS are in general a poor crop and much below the average. In very few gardens is there a good crop. In the commercial plantations of Dublin and Meath, where they are grown chiefly for the Dublin market the crop is very much below the average. On walls I have seen a few good crops of Coe's Golden Drop, Victoria and Green-gages. Damsons are almost a failure in general.

SWEET CHERRIES are a average crop in the large plantations of Derry, Dublin, Meath and Wicklow, but in other districts they are a below average crop.

MORELLOS are in general bearing an average crop.

GOOSEBERRIES are the redeeming feature in this year's fruit crop. Heavy crops are the rule, and the fruit is of good quality, and good prices were realised for the early marketed berries. Had it not been for the storm in May there would have been a record crop.

CURRANTS are also a good crop, very few of the returns being below average. Boskorp Giant and Victoria Black are bearing very heavy crops of very fine fruit. Red and White Currants are also bearing well, caterpillars causing less damage than usual.

RASPBERRIES on a whole are an average to a good crop. The flowers set well but the continuous drought and harsh winds when in flower and immediately afterwards prevented many of the fruits from swelling and proved detrimental to what would otherwise have been a record crop, as in general the canes ripened up well last year.

STRAWBERRIES have been the most variable crop of the year, and may be taken as an average to below average crop. In the south the season was a very short one, lasting only about a fortnight, and many of the later flowers did not set for the fruits swell. The northern crop was later and turned out much better. The fruit from around Dublin forwarded to the Dublin market was of exceptionally fine quality, and previous to the operation of fixed prices very good returns were obtained for the fruit.

Insects have been very troublesome this year, especially where winter and spring spraying operations were neglected. Winter moth caterpillars have been very destructive in a number of grass orchards, many of the trees being almost defoliated and the fruit blossoms ruined. No less than 39 per cent. of the correspondents record this as one of the most troublesome pests, yet one good spraying with arsenate of lead spray will destroy most of the caterpillars. Gooseberry Sawfly caterpillars are reported by 32 of the correspondents as doing injury to bush fruits, but the damage is not so serious as last year. Aphis has been very troublesome on most fruit trees and bushes. A number record American blight (Woolly Aphis) and the caterpillar of Ermine Moth as doing much damage to Apple trees. The latter has been very destructive in Co. Dublin this year, I counting no less than 42 nests on six feet of an Apple tree branch. Fungoid pests have not been so serious as in the last few years. Canker has been recorded by 25, Black Scab or Spot by 20, American Gooseberry Mildew by 14, Silver Leaf by 3, and Brown Rot by 3 of the correspondents as doing considerable damage. Black Scab or Spot is undoubtedly causing much damage to the Apple and Pear crops, especially in neglected orchards. In private gardens it is not so injurious, which goes to prove that good cultivation checks the ravages of this disease.

I beg to thank the numerous correspondents for kindly forwarding me the valuable information to enable me to compile this report.

W. S. IRVING.

# Royal Horticultural Society of Ireland.

## AUTUMN EXHIBITION.

THE forthcoming exhibition should prove a notable one provided adequate support is given in the way of numerous entries. It will be largely an exhibition of economic products; in fact, it is designed to produce a display of what can be grown in Irish gardens, and we know the gardens of Ireland can produce fruit and vegetables equal to any grown in the three kingdoms. Moreover the inducements for competitors to come forward in numbers are this year quite exceptional. We have been favoured with an ad-

forthcoming show in Dublin as a first prize in the Champion Fruit Class—viz.: a collection of fruit to be shown on a table space of 9 feet by 3 feet, only one dish of each variety to be shown. In addition a second prize consisting of a handsome certificate (see illustration), also presented by the officers and men of the fleet, will be awarded. In both cases cash prizes are included as well. Certificates are also offered for collections of Apples, a most important crop in Ireland. Another certificate goes to a collection of five kinds of vegetables open to ploholders in the Dublin District. Now, if ever, the ploholders have a chance, for each entry in this class is free, and each entrant receives one free ticket admitting



*It is difficult to overestimate the value to the man of these gifts of food & comfort.*  
*Admiral*

CERTIFICATE PRESENTED BY THE OFFICERS AND MEN OF THE GRAND FLEET.

vance copy of the Schedule and note that there are classes suitable for gardens of all sizes and prizes that are worth while. It is well known that through the Royal Horticultural Society of Ireland many tons of fruit and vegetables have been sent regularly to the fleet since the outbreak of war. "The Navy doesn't talk much, it hasn't the knack," said a naval officer, but there is every reason to know that men and officers have profoundly appreciated these gifts. To give tangible proof of their appreciation and with the approval of the Commander-in-Chief a silver salver has been designed and several of these salvers are to be presented by the officers and men of the Grand Fleet to the Vegetable Products Committee to be offered as prizes at agricultural and horticultural shows throughout the country. One such salver will be offered at the

to the show. In the open class for a collection of 12 distinct kinds of vegetables the Vegetable Products Committee, London, offer a valuable silver cup, and the Irish branch offer money prizes. A collection of six kinds of vegetables should bring out many competitors, the money prizes being offered by the Irish Branch of the Vegetable Products Committee.

Two classes are reserved for Chrysanthemums; one for twelve vases of singles, one variety to each vase, and one for six vases. Particulars regarding number of varieties will be found in the Schedule.

All the exhibits in the Champion Fruit Class will be sent to the Fleet.

To quote the naval officer again:—"The navy doesn't talk much, it hasn't the knack. The man munching an Apple or nibbling a Radish has only

one way of thanking the man who sent it, and that is by making him a gift too. Nothing like an adequate recompense—just a salute. That is what suggested the salver. Ton after ton of the finest home-grown fruits and vegetables have been sent to us, and will continue to come until the war is over. They are vitally necessary, but they are voluntarily sent, and there lies the charm."

We earnestly hope that owners of gardens, gardeners and plottolders will respond to the generosity of the gallant seamen and come forward with their produce in competition for the unique prizes for which there may never again be an opportunity of competing.

#### FORESTRY.

In this section there are classes for boards sawn from home-grown trees of Oak, Elm, Ash and other broad-leaved genera, and from conifers such as Larch, Spruce, Scot's Pine, Silver Fir, &c.

Class III in this section is open to nurserymen and the trade only, and consists of a "General exhibit of young trees suitable for commercial and ornamental planting."

### Suggestions to Allotment Holders for Autumn Treatment of Land.

THE following suggestions and recommendations have been prepared for the benefit of those who occupy small areas of land, such as allotments and gardens, or who wish to bring fresh land under spade cultivation with the view of increasing their supplies of vegetables during the autumn and winter, and in the spring and early summer of the next year. It should be borne in mind that the suggestions made are dependent upon local conditions.

Land which is available for spade cultivation in small areas may be divided into three classes, viz.:—

(a) Land at present under spade or arable cultivation.

(b) Good land which has been under permanent grass.

(c) Derelict or waste land.

*Class A.—Cultivated Land.*—Assuming that land of this character is in good heart very little additional cultivation will be required in the autumn. A dressing of either stable or farmyard manure should be applied, and the ground should be dug one spit deep.

1. *Vegetables which may be sown or planted during July and the early part of August:*—

1. Beet—Globe.
2. Carrot—Early varieties.
3. Turnip— " "
4. Onions— " "
5. Spinach—Prickly.
6. Cabbage—Varieties for spring cutting.

2. *Vegetables which may be sown or planted in October and early November.*—The following vegetables might be sown or planted in October or the beginning of November:—

1. Broad Beans.
2. Early Peas.
3. All varieties of Cabbage raised from seed sown in July or August.

These plants will yield crops in the following spring and early summer, but too late to allow of Potatoes being successfully planted after them. They could be succeeded, however, by Onions, Celery, Leeks, Turnips, Broccoli, Brussels Sprouts,

Kale or Carrots. Growers should remember that one crop of the Cabbage family should not as a general rule be succeeded by another of the same kind. Beans and Peas should be followed by Cabbage, and Cabbage by Onions, Carrots, or some kind of crop other than the Cabbage tribe.

Information as to the application of fertilisers to these crops will be found in a leaflet on *Manuring of Cottage Gardens and Allotments*.

*Class B.—Good Grass Land broken up for Spade Cultivation.*—Where grass land is broken up for spade cultivation it must be treated in a different way from the cultivated land described under the previous heading.

In the first place the land should be bastard trenched. To begin with, the turf should be skimmed off in a thin layer two to three inches in depth from a trench which should be eighteen inches to two feet broad. The first spit of soil immediately below the turf should be thrown back. The bottom soil should then be stirred to a depth of six inches with a pick, digging fork or spade, according to the nature of the subsoil. The turf layer from the next trench should then be laid upside down on the stirred bottom of the first trench and the first spit of soil placed above it. This process should be continued till all the land has been dug over, the turf and first spit of soil from the first trench being used to level up the last.

Land of this character is often very fertile and should give a good yield of Potatoes or other planted crop the following summer, but it can seldom be used for crops raised from small seeds in the year it is broken up, for two reasons:—

(1) Unless the turf is very good and free from weeds the result of the cultivation may bring up and favour the growth of a number of weeds which have been kept under hitherto; a great deal of hoeing may be necessary to keep these down and this may interfere with the seedlings. (2) Old grass land is often infested with wireworms (the grub of the Click Beetle) and leather jackets (the grub of the Daddy Long Legs). These insects may completely destroy the crop as soon as it begins to grow.

Treatment for these pests is given in leaflets Nos. 10 and 11, but as the methods advised may not be available the land should be frequently hoed and the weeds kept down so as to deprive the insects of their food for some months. The land may also be dressed with lime.

*Class C.—Derelict Land.*—Fertile grass land will not be available in many districts for cultivation by spade labour, and if additional land is to be brought under tillage waste land must be broken up. Much of this land, however, is quite infertile and could not be made to bear a crop to repay the labour spent on it. Dry thin land bearing a scanty crop of weeds, such as rushes, sorrel, or bents, should be avoided, but heavy land bearing a rank growth of nettles, docks and other vigorous weeds will with proper cultivation give a good return. There are many acres of suitable land of this class available, especially in the neighbourhood of large towns, but care is needed in treating it if it is ever to bear a satisfactory crop. The following treatment is recommended.

In the first place all rank growth of weeds should be cut down with a scythe. If the weeds are of a soft nature they might be put in heaps with any available grass for making into a compost, or if annuals, and free from ripe seeds, they may be dug in at once. If of a fibrous or woody nature they should be burnt. The land might



then be skimmed and bastard-trenched as advised above, but the greatest care must be taken (1) not to bring the subsoil to the top, and (2) to clear out the roots of such weeds as docks, couch grass, creeping buttercup, bindweed, nettles, &c. spent in the eradication of such weeds will be well repaid.

Land of this character when freed from weeds and properly trenched will bear a useful crop the following year if suitably manured. If stable or farmyard manure cannot be obtained, it is possible to supply the plant food from other sources—at least, for some years. The chief plant foods required to secure satisfactory growth are (1) nitrogen, (2) potash, (3) phosphates.

*Nitrogen* can be supplied by digging in all soft vegetable matter, such as grass, leaves of trees, and decaying vegetable matter of any sort.

*Potash* may be supplied by collecting and burning all kinds of woody material, such as hedge clippings, prunings from trees, &c. The ash should be carefully saved in bags and kept dry. It is especially useful on land that is to be cropped with Potatoes. Seaweed is a valuable potash manure and should be collected at all rocky sea coasts (see Leaflet No. 254, *The Use of Seaweed as Manure*).

*Phosphates* will not be readily supplied from natural sources, unless large quantities of fish waste are available, but phosphatic fertilisers such as basic slag, superphosphate and bonemeal should be procurable through the usual trade sources.

*Lime* will be required in many cases and should always be applied to grass land after breaking up.

The advice as to insect pests and weeds under Class B applies with even greater force to this class of land, and great care should be taken to get rid of both before the land is sown or planted with any crop. It would be better to keep such land vacant till the spring, when Potatoes might be planted.—*Leaflet 309, Board of Agriculture and Fisheries.*

## The Month's Work.

### Southern and Western Counties

By W. CAMBELL, Head Gardener to Lord Castletown, Doneraile Court, Co. Cork.

#### THE VEGETABLE GARDEN.

For many years we have not experienced such a long spell of dry weather, no rain having fallen during the months of May, June, and the first week of July, except a few light showers which were of very little use. All planting out of Cabbages, Broccoli and all other Winter Greens had to be held over until the welcome rain which started to fall on the 8th of July. Planting has been going merrily on since then, and plants will soon pull up for lost time in the moist warm ground.

**CABBAGE.**—Make another sowing of Cabbage Seed about the 10th of the month. Ellam's Early, Flower of Spring and Sutton's April are three good varieties for sowing now.

**CELERY.**—The earliest planted Celery will now be ready for a first earthing; before doing so pull off all side shoots and decaying foliage, water the plants with manure water before filling in the earth; great care should be taken that no clay gets

into the heart of the plants. Where there is a lot to do and not much time or labour to do it, perhaps the best way would be to go over the plants first and tie each one with Raffia (but not too tightly). The earth can then be put around the plants with a spade.

**TURNIPS.**—Another sowing of Orange Jelly and Blackstone should be made early in the month. I always sow at the same time some of the early white varieties, they provide nice tender roots all the early part of winter.

**ONIONS.**—If Tripolis and Shallotts have not already been lifted no time should be lost in doing so, spread them out on a dry walk where the wind and sun will thoroughly ripen them before storing them in a cool but dry house. Sow seed of Tripoli Onions about the 15th of the month; Ailsa Craig is also a useful sort to sow now.

**POTATOES.**—Lift and store second early sorts. It is just as well to pick out those required for seed while they are spread on the ground; it is easier than picking them afterwards in a dark house or cellar, at the same time separate all small or diseased tubers from those fit for table use. If there is the convenience of a house or shed to store them in let them lie for a few days to dry before covering them.

**LEeks.**—Plant out the latest batch of Leeks, these will remain longer without running to seed than the earlier planted lot; give them a piece of good rich ground to grow in, the richer the ground the more tender the Leek.

**SPINACH.**—Sow the Prickly or Winter sort now, the plants can be allowed to get a few inches high before thinning when the thinnings will give a few nice dishes.

**CAULIFLOWERS.**—Sow a little seed of Early London Cauliflower in a frame where it can be protected during the winter; also some all year round Cabbage Lettuce. If Lettuce is sown outdoor to stand the winter raise the bed as high as possible by taking out a deep trench each side of the bed; damps being responsible for nearly all casualties among the plants in the south of Ireland during the winter months.

**VEGETABLE MARROWS** are now bearing freely and require plenty of water during dry weather; give them soakings of manure water occasionally and cut off the marrows when large enough. If Marrows are required for jam making, a couple could be left on one plant to come to maturity.

**TOMATOES.**—Growing out-door will still need generous treatment in the way of manure water or some good artificial manure; as the fruit starts to colour they can be pulled off and spread out on a greenhouse shelf, or kept in boxes in a warm kitchen where they will finish off nicely.

#### THE FLOWER GARDEN.

**STRAWBERRIES.**—August is the best month for making new plantations of Strawberries. Ground where early Potatoes have been lifted and previously well manured will be very suitable for them; clean and level the ground, and make it firm by treading before planting. If the runners have been pegged down as described in last month's calendar they can now be lifted with a good ball of earth attached

to the roots, plant them in drills 2 feet 6 inches apart and 18 inches between the plants: as soon as the required number of runners have been taken off lift a few of the best remaining ones and put in stock to fill up possible blanks. If the old plants are to be retained for another year cut off all remaining runners and hoe between them. Cut away all old Raspberry and Loganberry canes after they have finished fruiting, and thin out some of the young growth where overcrowded.

## Midland and Northern Counties.

By E. RUTHERFORD, Gardener to Lord Farnham.  
Farnham Court, Co. Cavan.

### KITCHEN GARDEN

**PARSLEY.**—The leaves of spring sown Parsley should be picked hard or cut over in order to promote the growth of sturdy green leaves to stand the winter. Hoe the ground frequently and dust the plants with soot; if a cold pit is available transfer some of the plants from the latest sowing into it allowing a space of 1 foot between the rows and 6 inches between the plants.

**CALIFLOWERS** should be sown towards the middle of the month to provide plants for planting next spring, sow the seeds thinly; when the seedlings are fit to handle prick them out into frames 4 inches apart each way. Expose the plants to the weather at every favourable opportunity in winter and protect from frost and heavy rain.

**CABBAGE.**—Make another sowing of Cabbage to obtain plants for spring; this sowing will supply the main batch for planting next spring.

**VEGETABLE MARROWS.**—Plants which are producing good crops should be fed with liquid manure, and remove worthless growths; cut the Marrows before they become too large.

**BRASSICAS.**—Stir the ground among the plants frequently and draw some of the soil to the stems of the plants as they become large enough; this will have a beneficial effect on the growth and will assist in steadying the plants during high winds.

**LETTUCE.**—Continue to prick out young Lettuce plants on warm borders in order to produce a supply during October; make a sowing of All the Year.

**ONIONS.**—A sowing of Onions should be made about the middle of the month on rich ground, sowing the seeds thinly in rows 15 inches apart; Ailsa Craig and Lemon Rocca are good varieties. A small quantity of white Lisbon might be sown for pulling in the spring, it is not a good Onion for a general crop, as the bulbs do not keep long after they are matured. As soon as the seedlings are through dust with soot and apply the hoe between the rows. Lift spring sown Onions as soon as the foliage begins to die, place them on a hard surface where they will get plenty of sunshine, and turn them frequently until they are ready to be removed; they must not be stored until quite dry.

**WINTER SPINACH** should be now sown, sow the seeds in shallow drills 18 inches apart, when the

plants are well through the ground thin them to prevent overcrowding.

**CELERY.**—The early batch of Celery will require attention with regard to earthing up, previous to this let the trench be soaked with weak liquid manure; choose a dry day when the foliage will be dry, remove all decaying foliage and side shoots before tying the leaves loosely together; the soil should be broken up finely and carefully placed around the plants with the hand; apply a small quantity at each time of earthing.

**TURNIPS.**—Make a sowing of Turnips to last through the winter in the open ground, Chirk Castle, Blackstone and Red Globe are good varieties; thin them as soon as the seedlings are large enough and dust with some soot.

**MUSTARD AND CRESS.**—Continue to make weekly sowings in a cool frame throughout the Autumn, protection from heavy rain is all that is necessary.

**COLEWORTS.**—Continue to plant Coleworts in rich soil as the borders become vacant, allowing a distance of one foot between the plants each way.

**CARROTS.**—Give attention to the thinning of late sown Carrots and dust frequently with soot, and stir between the rows with the hoe.

### THE HARDY FRUIT GARDEN.

**RASPBERRIES.**—As soon as the Berries are all picked, cut out the old fruiting canes, the young canes will receive more sunshine and air, and will be well ripened; there is no advantage in leaving a large number of canes.

**FRUIT ROOM.**—The first favourable opportunity should be taken to put the fruit room in order for the storage of fruit. Cleanse every part of the woodwork by washing, afterwards limewashing and give plenty of air for a few days before placing any fruit in the room.

**WALL FRUIT.**—Continue to nail or tie the shoots of wall trees and remove all surplus growths, and stop all gross ones. Protect ripening fruit from birds with netting, and hang a few wide-mouthed bottles partly filled with some sweet liquid on the branches to capture wasps. Attend to the gathering of Plums as they ripen.

**BORDER CARNATIONS.**—The layering of the plants should be done as soon as possible, they will root well in a compost consisting of sifted leaf-mould, sand and loam, placed around the base of the plants; cut off a few of the lower leaves, insert the knife half way through between the third and fourth joint, cutting it in an upward direction to form a tongue. Peg the layer into the compost with the tongue open; layering pegs can be made from bracken or from wire.

**SPRING BEDDING PLANTS.**—Wallflowers and Forget-me-Nots will now require to be transplanted to make good plants. Polyanthus, Aubrietia and Alyssum that were placed close together in the reserve border should now be lifted and divided and planted in an open site.

**AUTUMN FLOWERING GLADIOLI** should be neatly staked, if not staked in time they will become bent and cannot be afterwards straightened. Manure water or soot water are good stimulants, don't use artificial manure for Gladioli as it weakens the bulbs for another year. During dry weather clear water should be frequently given; stir the surface with the hoe.

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# Irish Gardening

## Contents

	PAGE
Summer Flowering Shrubs (Illustrated)	129
Flowers of August . . . . .	132
Home Grown Seeds . . . . .	134
Pentstemons . . . . .	137
The Sea Lavenders . . . . .	138
Veronica Lavaudiana (Illustrated) . .	138
Campanula mirabilis (Illustrated) . .	139
The Alpine Knotweed Polygonum Alpinum (Illustrated) . . . . .	140
Taxus Baccata var. Dovastoni or var. Horizontalis . . . . .	140
Public Bodies and Trained Gardeners	140

	PAGE
Reviews—	
The Food Producing Garden . .	141
Fruit Bottling and Preserving . .	141
Journal of the Royal Horticultural Society . . . . .	141
Canning and Bottling of Fruits and Vegetables . . . . .	141
The Month's Work—	
Southern and Western Counties	142
Midland and Northern Counties	143
Perpetual Flowering Carnations in a Cold Greenhouse . . . . .	144



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# IRISH GARDENING

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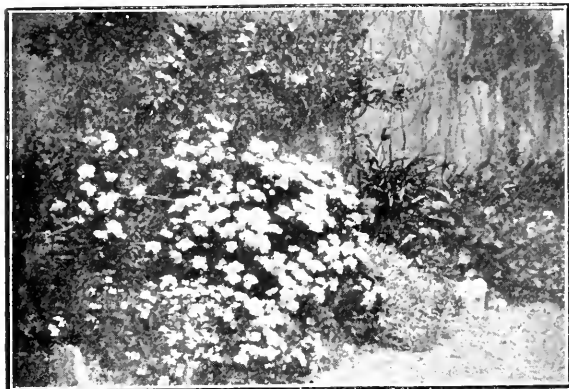
## Summer Flowering Shrubs.

By SIR JOHN ROSS OF BLADENSBURG.

THE genus *Eueryphia* is interesting in more ways than one, not only on account of the great horticultural merits of the various species that belong to it, but also because botanists have not yet decided where to place it in the vegetable kingdom. It is usually classed in the Rose Order, and is considered by some to be a close ally of *Quillaja*, of which *Q. Saponaria*, an evergreen shrub from Chile, is occasionally seen in this country; but other authorities are of opinion that it has no affinity with the *Rosaceae*, and perhaps the formation of the seed pods—quite unlike the fruits that generally distinguish the plants of that family—would go to favour that view. It contains four species: two are natives of Chile, and two of the Australasian Continent; but of the latter only one seems to be introduced. I have not seen the other, which is said to have pinnate foliage, nor have I heard of any place where it is cultivated in Europe. The two found in South America are *E. pinnatifolia* and *E. cordifolia*. The first of these, discovered more than seventy years ago and originally brought to this country in 1859, is perhaps the best known species of the genus, and is one of the most beautiful of the summer-flowering shrubs; indeed it compares favourably and holds its own with the very choicest of all the plants that adorn our gardens, and being hardy in the British Isles it should be more extensively grown than now appears to be the case. A specimen here, obtained in 1893, is some 25 feet high, with handsome shining pinnate sub-evergreen foliage, composed of three to five leaflets, and it produces

from the end of July onwards large pure white flowers of good texture, some 3 inches in diameter and formed of four petals, which are supplied with numerous stamens; the anthers are of a red orange colour, conspicuous when the bloom begins to open, then gradually fading away. It is an extremely floriferous shrub, and when decked out in full dress a singularly lovely sight like as if it were a giant plant of white *St. John's Wort*, but with a very different leaf. In a little more than a year it ripens its seed, which germinates readily, and it can be very easily propagated.

*E. cordifolia* is evergreen, with dull green, somewhat elongated, heart-shaped and rather stiff foliage: flowers with five petals, white and smaller than those of its companion; it was introduced in 1851, and appears to be less generally cultivated, though it is a very desirable species. I cannot say much about it, as I have not been so fortunate with it; the plants in this place are now doing well, but up to a short time ago one (at that time the only specimen) was apparently put in the wrong position, and refused to grow until its requirements were satisfied. *E. Billardieri*, from Tasmania, is probably the least known and rarer in cultivation than any of the others; it does not seem to be hardy at Kew, but it grows here remarkably well in a fairly sheltered place, and ought to succeed in all the milder parts of the United Kingdom. It is an extremely neat evergreen, with entire leaves, somewhat linear in shape and two to three inches long; the buds are



V. LAVAUDINA (SEE PAGE 138).

peculiar, and at certain times of the year they are translucent and yellowish in colour as if made of gum. The specimen in this collection is some 7 to 8 feet high, and while last summer it showed a little bloom, it was only this season that it produced it in profusion. Quite as floriferous as *E. pinnatifolia*, its blossoms formed of four very dainty petals, are white, about an inch or more in diameter, and each are supplied with a tuft of numerous stamens and painted anthers; they begin to expand in mid-July. It is a real gem much to be recommended, and if it grows to the size of a large tree, as it does in its native country, it will be a most valuable addition and ornament to the arboretum. All the *Eucryphias* seem to thrive here in rich, well-drained loam and leaf-mould, without any peat.

*Plagianthus* (Gaya) *Lyallii* is another beautiful July-flowering shrub, or rather small tree from New Zealand, with pale green foliage and bearing abundant clusters of white, small, mallow-like bloom; and though it differs very much from the various *Eucryphias* above-mentioned, it may be associated with them on this occasion, if only because each shows that fine contrast of colour which is displayed when the foliage of a large plant is well covered by masses of conspicuous and pure white flowers. Reverting, however, to the magnificent flora of Chile, reference should be made to *Desfontainia spinosa*, evergreen, leaves like a holly, and tubular bright red blossoms tipped with yellow, nearly two inches long; and to *Mitraria cocinea*, also evergreen, rather a trailing plant, suited to ramble over rocks, with red mitre-shaped flowers of a similar length. Coming also from the same part of South America should be noted, *Myrtus Luna* (called sometimes in gardens *Eugenia apiculata*), a large and handsome shrub; and the smaller *M. Ugni*, "*Myrtilla*," with a less good flower, but which

produces edible fruit in autumn. *Mutisia decurrens* is a climber with bright orange Gerbera-like bloom, some six inches across, pale grey-green leaves; and *M. ilicifolia*, similar to it, but white, another and a more rampant climber, with light green foliage. *Berberidopsis corallina* has, end of August, clusters of bright red small blossoms, as if made of wax; and if planted in a shady place, free from lime, this fine evergreen climber will soon make its way through other plants and become a very pleasing object. *Nerenbergia frutescens* is a small sub-shrub with large white flowers, delicately suffused with violet at the base and with a yellow centre, a very handsome plant. Most of the *Escallonias* are also natives of Chile, but as they have been well described in a recent number of *IRISH GARDENING*, it is not necessary to allude to them at present.

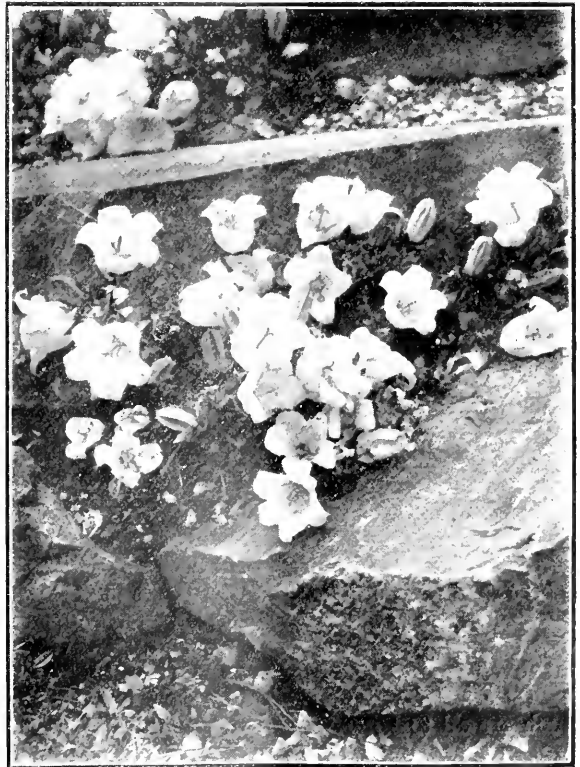
The first of the *Buddleias* brought to this country (in the 18th century) was *B. globosa* from Chile and Peru, a hardy and widely cultivated plant, with a round yellow inflorescence. Since then a large number of other species have been found, principally in China, of which may be noted *B. macrostachya*, with long, pale blue-mauve panicles, and soft grey-green foliage; *B. alternifolia*, discovered recently by Purdom, purple, small leaves and less robust in growth; *B. Davidii*, somewhat like *B. variabilis*, but finer in all its parts, with a more compact and smaller but very neat truss of bright blue purple, though sometimes of a more lilac shade; *B. officinalis* is grown here, but has not been found quite as hardy as the others, and it has not yet flowered; the rich red-purple form of *B. variabilis*, called variety *magnifica*, is also to be recommended, it comes into bloom a little later than the type. Some of the species of the genus *Hypericum*, all of them at their best in summer and gay with their yellow flowers, deserve a short notice. *H. balearicum*, evergreen, with small handsome foliage, seldom grows to more than two feet high; *H. aegyptiacum* is hardly as large; *H. galioides* is covered with bloom, as is also the dwarf *H. empetrifolium*; *H. fragile* and *H. polypkyllum* are small trailers; *H. reptans* forms a carpet; *H. lysimachioides* makes a dense bush, and is somewhat similar in habit to one recently introduced by Forrest (No. 8626) whose correct name I have not yet ascertained; *H. cernuum*, from North India, is not perhaps quite hardy everywhere; and the same may be said of *H. Leschenaultii* (triflorum), held to be a variety of *H. Hookerianum*, one of the best, clear orange-yellow, very large, and with shorter stamens than those that distinguish the group;



*H. aureum* is also a remarkable species, for its curious peeling bark, its glaucous foliage, and for the great profusion of bright flowers, each with innumerable golden stamens that form a large dense tuft, nearly covering the petals: *H. mysurense* has lived out here, but it seems tender and is scarcely to be relied on. Of the *Hydrangeas* it may be sufficient to mention *H. aspera*, *H. cinerea*, *H. Bretschneideri*, a fine tall, almost tree-like shrub; *H. virens*, with small party-coloured foliage, green, white and nearly black; *H. Sargentiana*, a recent importation from China, will probably be a favourite where it succeeds, with large soft, bright green leaves and rosy-lilac inflorescence. *H. radiata* is also interesting on account of the snowy whiteness of the underleaf. Allied to this genus is *Carpenteria californica*, which produces its white flowers in summer. A rarer plant is *Platyterater arguta*, from Japan, white, yellow stamens, forming a low bush. There are many of the *Philadelphuses* to be recommended, among them one of garden origin, *P. virginale*, double white, as well as the much more common *P. grandiflorus*; a well grown and well placed specimen of the latter is always a beautiful object when in full bloom. The smaller *P. mexicanus*, with a purple blotch, is desirable, but somewhat tender.

*Lavatera maritima bicolor*, of the Mallow Order, has a lovely flower, more than 3 inches in width, of a delicate light pink, shaded with bluish-purple, and looking as if it were made of satin; it is a native of the western Mediterranean region, but unfortunately it is liable to suffer in this climate. Whereas its ally, *Abutilon megapotamicum* (*vexillarium*), red and yellow, like the Spanish flag, though coming from Brazil, is quite hardy in the milder parts of the country. *Notospartium Carmichaeliæ*, of the Pea family, is a bush with green rush-like branchlets, destitute of leaves, and displaying, early in July, clusters of bright pink flowers. It comes from New Zealand, as does also *Carmichaelia australis*, which somewhat resembles it in outward appearance, but which produces at the same time numerous minute pea-shaped blossoms—purple and white; the inflorescence of both *C. flagelliformis*, with flattened branchlets, and of *C. odorata*, with very small pinnate foliage, leaflets circular, is very similar. Related to them, *Psoralea pinnata* has bright green needle-like leaves, an inch long, and very pretty bloom, violet and white, that appears at the end of July; it is South African, and has not yet been established here out of doors. Among the Composite plants, *Senecio Munroi* is a dwarf-

spreading shrub, with grey leaves, curled at the edges, and white underneath, bearing masses of golden daisies, each about an inch across, a very bright object in a sunny spot; while *S. Hectori* is a fine shrub (some 10 feet high here), with large pale green entire foliage, curiously cut and becoming pinnate just at the base, and having corymbs of similar flowers, white, with a yellow centre. Both are of New Zealand origin. Of *Jessamines*, related to the *Lilacs*, *Jasminum primulinum* was introduced from Yunnan at the beginning of this century, and has large yellow bloom; it does best against a wall. *J. revolutum*, also yellow, grows to a good sized bush; *J. officinale*, white; *J. beesianum*, dark red-purple, more strange perhaps than striking. *Mandevillea suaveolens*, from Argentina, is a most delightful climber and a treasure of much value; it is allied to the *Periwinkle*, and has in August large, deliciously-scented white flowers of good substance and appearance. It seems quite at home here and hardy; the only fault with it is that the blossoms open so high up that a ladder is often required to get them. *Salvias* are represented by *S. Grahami*, a native of Mexico,



*CAMPANULA MIRABILIS* (SEE PAGE 139).

red; *S. Greigii* is somewhat like it, but perhaps more hardy; *S. aurea* just survives out of doors, and it has only flowered under glass. There are other species of this handsome genus, but as most of them that will grow in the open, are herbaceous, they are not included in this article; nevertheless *S. patens* should not be omitted, on account of the intense blue colour which it introduces into the wild garden, where in mild districts it ought, with care, to grow luxuriantly. Allied to *Salvia*, is *Colquhounia vestita*, a little known shrub from North India, with bunches of orange-red flowers in August onwards; it has much to recommend it. Nor should the *Romneyas* be forgotten, *R. Coulteri* and *R. trichocalyx*, both of them welcome acquisitions; nor their near relation, *Hummelmannia fumariæ-folia*, a sub-shrub, with abundant poppy-like bloom, bright yellow and orange centre, harmonising well with the handsome grey-green foliage. These last three plants are part of the Californian flora.

No reference has been made to the *Veronicas*, which in summer add so pleasing an effect to a shrubbery. But it would unduly extend this article if they and many other plants of value, well deserving of notice, were to be included in it. A brief note, however, may be made on a very few hybrids that seem to merit special attention, even though I regret I am not able in all cases to supply their proper names. *Veronica Veitchii* is a good blue; another, name unknown, is a light and bright shade of the same colour; another, name also unknown, is a brilliant carmine red, very striking, and one of the best of all; *V. Girdwoodiana*, clear blue; *V. "Autumn Glory,"* rich blue-purple; *V. "La Seduisante,"* dark purple, leaves to match; *V. Gauntletti*, fine salmon-red, remaining in bloom for a long time. Two more plants may be added to the above on account of their colouring. A trailing little shrub was sent here under the name of *Verbena chamædrifolia*, and up to now has been found to be hardy; its flowers are vivid scarlet, and are abundantly produced. If it succeeds it will prove an effective and interesting carpeting species for the rock garden. *Ononis Natrix* does not seem to be common in cultivation, and yet it is very beautiful. Its golden pea-shaped blossoms netted with dark lines, are most attractive and even more striking than its brethren, *O. fraticosa*, *O. rotundifolia*, *O. aragonensis*, which are all to be commended. It used to be here, but has unfortunately disappeared; and I do not remember seeing it listed in any nurseryman's catalogue in recent years.

## Flowers of August.

A CONTINUANCE of comparatively dry, warm weather has conduced to a plentiful supply of flowers. Occasional showers were beneficial in maintaining a freshness often lacking at this time of year and heavy dews at night have kept the grass green and growing; this, though entailing some amount of work in keeping it down, adds greatly to the beauty of the garden.

### SHRUBS.

Interesting and beautiful shrubs have been fairly well in evidence considering the time of year. The autumn-flowering Heaths are noticeable, particularly the Cornish Heath *Erica vagans*, which is now producing its dense spikes of pink flowers. There is some variation in shade, the best being deep pink, and it looks as if it would be well to raise seedlings from the best colours and select those with the finest spikes and deepest shades. *Erica maweariana* is a most attractive Heath, with large pink bells reminiscent of *St. Daboc's Heath*, *Daboecia polifolia*; it is considered a variety of *E. ciliaris*, but is more compact in habit than the type, with shorter, stiffer branches and the flowers carried above the foliage. That lovely Heath, *E. cinerea coccinea*, has also lasted well into August, forming beautiful patches of colour among *Rhododendrons*. The shrubby *Potentillas* are a delightful set of dwarf shrubs, a number of them flowering more or less all summer; most conspicuous, however, is *Pot. fruticosa mandshurica*, a low grower, with grey leaves and carrying continuously for months a quantity of pure white flowers. It is suitable for the rock garden and front of a choice shrubbery.

Among shrubs of the Pea family, *Desmodium tiliaefolium* is worthy of note. It is an Indian shrub, sometimes not quite hardy, forming a woody base from which numerous long, rather pendulous shoots are produced annually; the leaves composed of three leaflets downy on the under surface. At the ends of the summer shoots the flowers are produced; they are of a soft lilac pink, an uncommon colour among autumn flowering shrubs. It is well worth growing on a wall. *Spartium junceum* still continues to make a fine display, with its clear yellow flowers, and is invaluable for autumn flowering. The upright form of the Dyer's Greenweed, *Genista tinctoria elatior*, is a useful plant for sunny shrubberies, brightening them up at this season with its panicles of yellow flowers. Valuable, too, at this time are the

*Hypericums*, of which there are several very pretty species. *H. elatum* is an abundant flowerer growing about 4 feet high. Compared with some of the better sorts the flowers are small, and the leaves have an unpleasant odour when bruised; it is nevertheless not to be despised for shrubbery planting and will flourish in shade where many shrubs languish. A finer plant is *Hypericum patulum*, a handsome dwarf shrub with the leaves glaucous beneath. The flowers are fairly large up to 2 inches across, borne at the ends of the summer shoots; they are of a golden-yellow colour. A plant of more recent introduction is *H. patulum Henryi*, a native of China, and stronger in growth than the type. It is a first rate shrub for a sunny position, and never fails to attract attention. *H. moserianum* is a hybrid between *H. patulum* and the common Rose of Sharon, *H. calycinum*. It is a low growing plant, best suited perhaps on the rockery or in the front of a sunny shrubbery. The shoots are terminated by a cluster of large golden-yellow flowers, opening in succession. There is a variety known as tricolor, having the leaves edged with pink and white, but it has never flourished here in the open.

The most conspicuous shrubby *Veronica* flowering in August has been *V. parviflora* which has borne enormous quantities of its long slender racemes of white flowers and will continue to flower for some time. This is probably the plant known as *V. parviflora. var. angustifolia*, the leaves being long and narrow.

An uncommon shrub is *Bigelovia graveolens*, growing here about 3 feet high, producing light grey branches, densely furnished with narrow grey leaves. The branches are terminated by corymbs of small bright yellow flowers, which continue in beauty for several weeks.

*Fuchsias* continue to be attractive, notably *F. macrostemma*, *F. Riccartoni*, *F. globosa*, and the charming little *F. pumila*, a delightful plant for the rock garden, and growing only about a foot high.

*Euryphia pinnata* is flowering freely, and the spikes of *Æsculus parviflora* are noticeable among the Chestnuts in the arboretum, where the dwarf bushy habit of this species renders it distinct among the other taller Chestnuts.

#### HERBACEOUS PLANTS.

THESE have been very fine during August, especially if we include annuals, which are, of course, herbaceous. *Lavateras* have grown remarkably considering the comparatively dry weather, and groups in the borders have been conspicuous with their deep rose flowers. It is best to sow

where they are to flower. *Godetias*, annual Sunflowers, and others have added to the attractiveness of the garden, with a minimum of labour. Turning to perennials, *Senecio Clivernum* has been conspicuous with its great golden flower heads looking particularly well near the steel-blue heads of *Echinops sphærocephalus*. Perennial Sunflowers of the *Helianthus multiflorus* set are very effective border plants; the singles, with their large heads, are perhaps more useful for cutting, but the doubles are of great value in the borders.

*Chrysanthemum maximum*, in its many varieties, is invaluable for providing cut flowers and for giving effective white groups among other more gaudy colours. The best here is *Etoile D'Anvers*, a robust grower, with magnificent large white heads; other good varieties are *Mrs. J. Tersteeg*, *Mrs. Chas. Lowthian Bell* and *Annie House*. *Scabiosa caucasica* should be grown by every lover of hardy plants; it flowers in July and on through August in profusion, the light lilac-blue flowers being always admired. It requires a year or two to become established, and resents disturbance when once planted. Another plant which should be left alone when planted is *Gypsophila paniculata*, both the single and double forms, and there are no more attractive plants when forming mounds 3-4 feet high of their small flowers in much branched panicles. *Potentilla* Miss Willmott, pink, and *P. Gibson's Scarlet* are extremely effective allowed to grow freely near the front of the border, giving, over a long period, masses of flowers. The old *Helenium autumnale pumilum* about 3 feet high, usually flowers in advance of others of the same genus, and makes an effective group. The taller and newer varieties, *Riverton Beauty* and *Riverton Gem*, are indispensable for the herbaceous border; while *H. autumnale rubrum*, with deep reddish maroon heads, is not surpassed by any other herbaceous plant in its season. It is remarkable how many plants of the great natural order *Compositæ* adorn our gardens at this season—*Helianthus*, *Helenium*, *Senecios*, *Heliopsis*, *Echinops*, *Silphium*, *Eupatorium*, and many others, all good border plants. The autumn flowering *Anemone japonica*, in various shades, is now coming on in turn, and later, *Solidagos* and *Asters* will, weather permitting, follow on and see the season out.

#### ALPINE AND BOG PLANTS.

THERE is still much of interest in the rock garden, which is not so bleak a place as many suppose after June is out.

Very attractive in a half-shady position is

*Lysimachia Henryi*, a trailer, with effective yellow flowers; easy to grow and propagate, it is, however, doubtfully hardy, and it is wise to keep a few plants in pots in a cold frame during winter. A showy subject for a hot sunny spot is *Oxalis valdiviana*, which shows no sign of ceasing to flower, but opens every day many of its golden yellow flowers, forming quite a bouquet of blossom. *Campanula carpatia* and its varieties are still full of flowers, and *Campanula haylodgensis*, both the double and single forms, have been in great beauty for some time, and still are at the time of writing—viz., August 21st. *Platycodons*, too, have been beautiful during August, especially *P. grandiflorum*, blue, also the white variety, and one with large flowers very pale blue; *P. Moriesii* is dwarfed, with blue flowers. *Campanula Norman Grove* is a dwarf hybrid producing quantities of pale lilac flowers over a long period, while a very different plant, also flowering in August, is *Campanula primulæfolia*, with 2 foot high spikes, densely set with blue flowers, each with a dark eye; it is however only a biennial, but a good plant. Also of the *Campanula* order is *Adenophora ornata*, with lovely pendent bells of light blue; *Adenophora Watsoni* is also good, of recent introduction and bearing racemes of flowers of a blue shade; but I must give up attempting to describe the different shades, it is hopeless.

For several weeks past *Androsace lanuginosa* has been flowering freely. It is one of the best with its silky leaves on trailing stems and umbels of pink flowers. *Eriogonum Jamesii* is a distinct plant and enjoys sunshine; it bears heads of yellow flowers well above the leaves, which are green above and furnished with grey felt below. *Oenothera missouriensis* is a vigorous trailer, with reddish stems, and producing many large yellow flowers. Somewhat similar, but not too spreading in habit, is *Oenothera Howardii*, with long narrow leaves, slightly hairy, and large yellow flowers.

*Cnicus acanthifolia* forms wide rosettes of Thistle-like leaves with the large flower head nestling in the centre of the rosette; when full out it is quite attractive, the outer bracts, when folded back during sunshine, having a white papery appearance. *Acæna microphylla* makes a pretty patch of colour with its spiny bright red fruits.

*Primula Mooreana* is a lovely autumn flowerer, a giant of the *Primula capitata* type, with handsome leaves of a deep green, showing a slight mealiness along the mid-rib on the underside. The deep purple-blue flowers held aloft on densely mealy stems are of great beauty.

It is very similar to the newer *P. crispifolia*, but has been long in cultivation.

In the bog garden *Triosteum himalayanum* is attractive by reason of its clusters of deep red fruits, and *Monarda Cambridge Scarlet* has provided a fine bit of colour. This is quite a good herbaceous plant for border work where the soil is retentive, but refuses to flourish in our dry soil, hence its place in the bog garden. *Seneccio Veitchianus* is always effective, with its ample leaves and tall spikes of yellow flowers. *Lysimachia clethroides*, with glaucous leaves and spikes of small white flowers, flourishes in the bog, and here, too, *Thalictrum dipterocarpum* lives, but scarcely reaches the dimensions it should, and does in some places. *Astilbe grandis*, white *A. Davidii*, crimson-violet, and *A. rivularis*, creamy-white, have formed a fine succession to the brilliant hybrids which flowered earlier.

J. W. B., Glasnevin.

## Home Grown Seeds.

By A. F. PEARSON.

THE saving of home-grown seeds is an art well-known to the older school of gardeners, and although we have been admirably supplied by the skilled seed grower for generations past with a seed, the purity and germinating power of which might be called perfect, the effect of four years of war and its incidental increased cultivation has taxed the seed trade to almost breaking point. The shrinkage of supplies, due to shipping and other shortages, permits a licence to every grower of food stuffs or flowers to save seed without encroaching on the seed growers' preserves.

Although our climate is not an ideal seed saving one, there are many vegetables and flowers so easily saved that the merest novice might undertake the work.

Peas and Beans come first to one's mind; given a dry autumn both may be saved in the pod where they grow. If the weather be showery, choose a dry day to pull the haulm, then hang it up in a cool airy shed or barn, where the pods can be shelled at convenience and the dry seeds bagged or boxed for spring sowing, after naming.

Brussels Sprouts, Cauliflowers, Broccoli and Cabbages are comparatively easily saved, but the choice of a special stock is imperative, and it is desirable that the different sorts should be well removed from each other, otherwise hybrids would be a likely consequence due to crossing.

In selecting, make sure of a typical healthy plant of robust character. In the case of a Brussel Sprout, firm hard sprouts from the very base to the uppermost leaf should be the chosen one. Strip these off and stake the plant so as to afford the plant, which will flower at the top, protection from the hard winds in spring. Broccolis and Cauliflowers should be chosen for their purity and closeness of curd, anything loose and straggly will produce after its own kind a weakly weedy stock.

Cabbages should be selected for compact shapely heads, and do not save seed from a

rooted section may be chosen from clean, highly coloured roots of medium size with one straight taproot with no sign of coarseness or side roots. The Globe section should not be coarse, mangold-like, but smooth, clean, single taproots of cricket ball size and highly coloured.

**CARROTS**—Select at lifting time clean medium-sized roots typical of their sections, all split and forked roots being discarded. Keep these till spring and plant 18 inches apart, similarly to Beet. These will flower and ripen seed freely during the summer.

**PARSNIPS** are selected on the same principle,



ALPINE KNOTWEED *POLYGONUM ALPINUM* (SEE PAGE 140).

plant which has bolted—that is, flowered before it has formed its head—such a selection would perpetuate a race of Cabbages of the Kale type.

Borecole or Curly Kale ought to be chosen from a hardy frost-proof type of the dwarf character in preference to the leggy sort, and avoid the coarse-leaved kinds. The fine curled leaf is decidedly superior. All of the Brassicas, including the foregoing, require similar treatment in saving, always keeping one's eye open for the ripening period, when the seed stem may be cut and hung up over a canvas or tray prior to shelling or threshing. Sprouts and Broccolis of last winter are now ripening, the summer stocks in flower will ripen rapidly now.

Beetroots ripen all right in a hot summer. The roots should be selected at lifting time and set aside for planting out in spring; the long-

but the longer and cleaner the root the better, unless one desires the stump-rooted type. Avoid ranky roots with sloughing crowns, as if these pass through the winter sound they are likely to beget, through the seed saved, roots of their own kind. A very common complaint with Parsnips is a sudden failing and dying off just when the flower is passing and seed formation taking place. It would be a wise precaution to eliminate any of these roots and burn the seed rather than perpetuate a weakly race.

**TURNIPS**.—Both the yellow and white sorts are chosen from small clean single taproots, and all signs of coarseness must be avoided, and do not save from premature flowers, which very often appear in early spring sowings. Swedes are chosen in a similar way and are drilled in spring. All of the above-mentioned

root seeds must be carefully sifted and cleaned when thoroughly dry, and placed in dry airy presses or drawers for the season of sowing, correctly naming all to avoid trouble.

**LEEK.**—At one time every cottager in Scotland saved his own special strain of this valuable vegetable; in the Border district so much was this the case that Leek Clubs were formed and extraordinary specimens exhibited at the winter meetings. Select for seed-saving thick clean shapely roots without any sign of bulbous inclination, and long blanching properties are desired, although in reality the grower is responsible for producing the blanch. Seed selection from well blanched plants year after year is bound to have a marked effect on the strain. Misshapen, coarse roots and pale green, weakly foliaged specimens unable to resist frost should not be encouraged.

The **ONION**—closely allied to the Leek—is in seed exactly similar, but vastly different in other respects; is very easily grown for seed, and most interesting. In selecting bulbs for seed make sure that the stock is clean and free from mildew. Firm compact bulbs with very thin natural necks (not manipulated and fined down by twisting or drawing the substance away) must be chosen for planting in spring. Coarse split bulbs are useless, except for producing lots of seed, but they will bring a disappointing race. The stem of the Onion when carrying the flower head is brittle and easily broken, so it would be wise to stake and tie all flowering stems. Keep the Onion away from its neighbour the Leek when growing for seed.

**PARSLEY**—Select for seed production summer-sown plants of a fine moss-leaved character, which have passed through the winter. By this method one will get a harvest of seed in the early summer months. It is a prolific seed-bearer, and one must be careful to avoid diseased or rusty-leaved plants.

**CELERY.**—Save from strong healthy typical plants free from either rot or leaf rust. Like the Parsley, it produces a large quantity of seed.

**VEGETABLE MARROW** gives a large number of seeds from one fruit, and a shapely well grown fruit is preferable to a large coarse one as a seed bearer. The seeds can be washed out from the pulp in autumn, then thoroughly dried before being packed away.

**LETTUCE.**—Select plants which have stood firm and compact for a long time before showing the flower stalk. Coarse Cabbage-like heads are not the best, but, of course, the grower must at all times suit his own taste so far as variety goes.

Melons should be selected for flavour, size, and freedom of setting fruit, and a thick flesh

and thin rind are necessary adjuncts to a first rate Melon. Wash the seeds from the pulp and fibre and dry thoroughly before storing.

**TOMATO.**—Choose round highly-coloured fruits free from coarseness, corrugations or splitting, and from free fruiting healthy plants only. Diseased or otherwise defective fruits must not be selected. Allow the fruit to rot, then wash out the seed and let it dry on a sieve before placing in envelope.

Generally speaking the above-named vegetables and fruits embrace our common everyday needs, but we can hardly pass over the pleasing and brighter side of the garden without comment. Many of the annual and biennial flowers of every garden can be saved in this not altogether ideal atmosphere.

**Antirrhinums** give quantities of seed for the gathering. An attempt at keeping them pure could be made, but the chances are that mixed colours would crop up. This however, in war times is unavoidable and is occurring in our best strains.

Single **Asters** are prolific seed bearers, and in a fine warm season the germinating power will be normal in well-saved seed.

**Stocks.**—Saved from strong compact plants, the seed will prove equal to any first rate seedsman's stock. It is, however, a tedious operation to shell this seed and one's finger nails get sore before quarter of an ounce is secured.

**Godetia, Clarkia, Larkspur, Cornflower, Nigella, Malope, Marigold** are only a few of the many pretty flowers of the garden which could be easily saved to ease the seed supply.

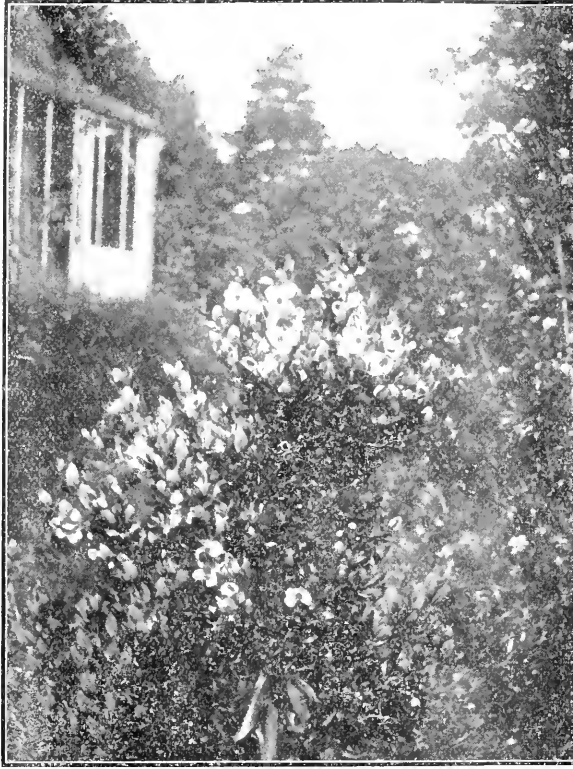
The choicer things—both indoor and out—such as **Begonia, Gloxinia, Primula, Cyclamen, Carnation, Calceolaria, Cineraria, Auricula, Nicotiana, Schizanthus, &c.**, can all be saved in an ordinary fine season sufficiently well to tide one over what may yet prove to be a very difficult series of years for seed growers and kindred professions.

Anyone possessing a spare piece of ground fairly open, and not unduly exposed to severe gales, might profitably turn it into a seed-growing portion of the garden. The seed trade will not be damaged by this procedure; on the contrary, it will benefit in common with other members of the community, for in all probability it will have more than enough to do to procure stocks to meet the extraordinary demand now prevailing, and likely to prevail, for some years to come; and no amateur seed grower, be he ever so expert in gardening, is likely to remain a permanent rival to the highly-trained expert seed grower.

## Pentstemons.

At the present time, when expensive "bedding" arrangements are unpopular, one turns to plants that may be grown with but little trouble and a minimum of expense. Among the most important of these are the Pentstemons, of which there are many beautiful garden varieties as

thorough drainage, as nothing is so detrimental to the cuttings in late autumn and winter as too damp a condition of the soil. If necessary, therefore, a quantity of rough material should be placed in the bottom of the frame, and over this a light layer of half-decayed leaves to keep the drainage open. Over this a layer of three inches of fine sandy soil made moderately firm will form a suitable bed for the cuttings.



*EUCRYPHIA CORDIFOLIA*  
At Mount Usher, Co. Wicklow.

well as true species. The former are the more popular for a flower garden display, and merit all the praise bestowed on them.

The cultivation and propagation of Pentstemons is comparatively easy. A rich, well drained soil will produce strong plants capable of bearing long spikes of handsome flowers.

September is a good month to take cuttings for next year's display. The cuttings may be struck under handlights if only small quantities are required, but where larger numbers are necessary it is better to prepare a bed of light, sandy soil in a cold frame. It is wise to ensure

Suitable cuttings will be found, generally, arising from below the flower spikes, though some varieties produce so many spikes that cuttings are difficult to obtain unless the shoots have been previously "pinched" to prevent flowering and induce the formation of cuttings. Shoots from three to five inches long are suitable, removing just enough leaves to give the cutting a good hold when placed in the soil. They may be dibbled in three inches apart; when finished, water well, close the frame, and shade from strong sun until the cuttings begin to recover and show by their stiffening leaves that evapora-



tion is decreasing. When rooted, admit air on all possible occasions until planting out time in April.

A large number of varieties is grown and beautiful effects are possible with masses of different colours. The so-called Gem class is popular, and includes Southgate Gem, scarlet; Myddleton Gem, pink; and Newbury Gem, also scarlet, but flowers smaller than those of Southgate Gem.

Of the larger flowered varieties there is a wide selection, embracing those with scarlet, rose, violet, purple, white, pink, and beautifully tinted flowers.

The following is but a selection from the many in cultivation:—Fair to See and John Forbes, purple; Aldenham Pride, deep rose; Crimson Gem and Mrs. F. Fulford, rose red; Chester Scarlet, scarlet; White Bedder, white; Daydream, white tinted pink; Apple Blossom, light pink, and many others.

FLORIST.

## The Sea Lavenders.

BOTANICALLY called *Statice*, the Sea Lavenders form a useful group of autumn-flowering herbs or sub-shrubs. Most people are familiar with *Statice latifolia*, a valued ornament of the herbaceous border and also of the bolder parts of the rock garden. Although requiring ample space for its wide-spreading inflorescence, it is a plant few gardening people would care to be without. The light feathery appearance of the flowers is always admired, and when just full out the inflorescence may be cut and will last a long time in water arranged with other flowers of the season, such, for instance, as Gladioli, and when dry it is scarcely less effective as a winter decoration without water.

In addition to this species there are several others, mostly smaller in growth, which are eminently suited for the rock garden, particularly as they flower in autumn and lend additional interest to that section of the garden.

*Statice globulariaefolia*, as the specific name implies, has leaves somewhat resembling one of the larger leaved *Globularias*, and forming a rosette close to the soil; from among the leaves arise branching inflorescences of small pale blue flowers, giving that misty effect which seems in keeping with autumn days.

*Statice gongetiana* is a tufted species forming a sub-shrubby base, the branches furnished with small leathery, dark-green leaves. The flower

panicles are comparatively short and dense, the flowers of a purple blue colour. A valuable species for planting in a crevice.

*Statice Gmelini*, from the Caucasus, has larger leaves and rather attractive blue flowers in the usual branched inflorescence.

*Statice incana* is an attractive species, with small greyish leaves and blue flowers. In some works this is quoted as synonym of *Statice tatarica*, which has reddish flowers and is not so common.

*Statice occidentalis* is another attractive alpine with rosettes of small leaves and a daintily branched inflorescence of blue or purplish blue flowers. One or two of our native species are well worth growing in gardens.

*Statice Limonium* is the commonest species like the others frequenting the coast. It forms a creeping root-stock bearing leaves from 2-4 inches long, and produces numerous branched corymbs of purplish blue flowers.

*Statice auriculifolia* is less common, but sometimes met with in gardens. The leaves vary from one to three or four inches in length, and the inflorescence is shorter than in *Statice Limonium* and of the same purplish-blue colour.

*Statice bellidifolia*, with rosettes of Daisy-like leaves and short panicles of Lilac-blue flowers, is quite a good rock plant.

There are many other species, some hardy and others not, and a few annuals which are most attractive in their season.

It is, however, difficult to obtain many of those described in books, and it is by no means certain that the right plant will be obtained when ordered under a given name.

Given a well-drained soil and a sunny position there is no difficulty in cultivation.

Seeds afford the best means of propagation, but are not always available. Divisions and cuttings of the roots may be resorted to in the absence of seeds.

X.

## Veronica Lavaudiana.

THIS beautiful, but fickle, dwarf shrub has evidently found conditions to its liking at "Waverly," Foxrock, Co. Dublin. M. G. Drury, in sending the photograph reproduced in the present issue, writes as follows:—"I enclose photograph of a patch of *Veronica Lavaudiana*, which flowered here in April, May and June this year, and also in previous years, in full sun S.E., and continues to look quite healthy, the withered flower heads having been cut back."

We will be glad if other readers will tell us of



their experience of this charming *Veronica*. In some gardens it seems to flourish and in others to languish. Particulars of soil and situation where it succeeds would be helpful to those less fortunate.

What little experience we have seems to point

Flowering in July and August, it immediately attracts attention in the rock garden, as at that time there are fewer striking plants in flower than earlier in the season.

Even when not in flower, the rosettes of shining green leaves are handsome and



*EUCRYPHIA PINNATIFOLIA.*

At Narrowwater, Co. Down.

to a cool situation not exposed to the sun in the middle of the day as being most suitable. Local conditions, however, may have a lot to do with success or failure.

### ***Campanula mirabilis.***

ALTHOUGH only a biennial, or, perhaps more strictly, what botanists call monocarpic, this is one of the most delightful of the bellflowers.

distinct, and look particularly well when the plants are placed in a vertical or horizontal arcevee.

Ordinary gritty soil, fairly moist, seems to suit well. The plants illustrated were growing in a position exposed to the afternoon sun only, though quite possibly full sun would be just as suitable. A native of the Caucasus, *C. mirabilis* is worthy of note by all lovers of alpine. Seeds are usually produced freely. B.

### The Alpine Knotweed *Polygonum alpinum*.

THIS attractive plant is suitable for the flower border or for the large rock garden, and makes a pretty display in June and July. Growing about two feet high, or sometimes rather more, it produces branching panicles of small, white flowers. The leaves are lanceolate, with hairy margins. The flowers are useful for cutting, and, all things considered, it is worthy of more extended cultivation. X.

### *Taxus Baccata* var. *Dovastonii* or var. *Horizontalis*.

THERE is a very fine tree of the above growing on one of the terraces at Killyleigh Castle, Co. Down, near Strangford Lough. Height, between 30 and 40 feet; girth, 10 feet. The branches begin to shoot out from the main stem some 3½ to 4 feet from the ground, forming a dense circular mass, 30 yards, perhaps more, in diameter. So thick and so close to the ground are the branches that it is almost impossible to get to the centre of the tree. There is a walk on the terrace, from which the ends of the branches on one side have to be cut, and the circumference of the mass measures 81 yards. Near it, and on the same terrace, is another yew of upright habit (*Taxus baccata*), some 15 feet in girth. Killyleigh Castle, belonging to Colonel Rowan-Hamilton, is one of the old Norman strongholds of the famous de Courcy, who first invaded Ulster at the end of the 12th century, and it has never been allowed to fall into ruins, like so many other castles of that period. J. R. of B.

### The Great Butterwort : *Pinguicula grandiflora*.

THIS is an attractive native plant, abundant in the south of Ireland, and which is well worth endeavouring to establish in our gardens. It loves moisture, and will, if planted in moist peat at once, make itself at home for the summer. The trouble comes with winter. Though apparently quite hardy, the nature of the plant is to form a small hard-resting bud at the end

of summer, and with the advent of frost and thaw, these buds are loosened, and roll about the surface, frequently becoming dried up and lost or probably destroyed when forking about the surface peat preparing for other plants. The safest method is to plant in small colonies and surround them with stones. When the resting season arrives a light top-dressing of fine peat will help to mitigate the action of frost and prevent the winter buds from becoming loose and being blown away. It used to grow extremely well in Mr. Lloyd Praeger's garden at Lisnamal, Rathgar. The flat, sticky leaves form a rosette, and from amid the leaves arise the naked flower scapes, each surmounted by a large, deep violet flower.

### Public Bodies and Trained Gardeners.

A DEPUTATION from the Irish Gardeners' Association recently waited on the Dublin Corporation with a view to suggesting that the Corporation should employ trained gardeners in the laying out and maintenance of the garden spaces, street trees and other ornamental ground under its care. It was also pointed out by the deputation that gardeners had been the last to move in the matter of increased payment, and it was urged that skilled gardeners were entitled to more favourable consideration in this direction than has hitherto been the case. The deputation was very favourably received, the Lord Mayor promising that the Council would give the matter favourable consideration and the Town Clerk remarking that the Corporation always employed Trade Union labour and paid Trade Union rates, and would also do so in this case.

The Irish Gardeners' Association has done a considerable service to gardeners in bringing up the questions of the gardeners status and remuneration. Too long has this, the oldest craft of all, been subject to every kind of disability through the inclusion of any and every kind of individual who imagined he could grow Cabbages or Geraniums. To be properly trained, a gardener requires at least as much training as a carpenter or engineer, as a matter of fact his work is far more intricate and difficult than either if he learns it thoroughly, and he should be paid at least as much. As well call a man a carpenter who can hammer together a rough box as another a gardener who can dig a piece of ground in a sort of way or saw a branch of a tree. A gardener to be properly trained and experienced must have years of practice in digging, trenching, sowing planting and pruning, and must acquire knowledge in different parts of the country, as difference in soil and climate renders different methods necessary. At the present time there are men calling themselves gardeners and getting £2 a week who are not capable of doing the most elementary work without supervision, while properly trained men can hardly make ends meet.

## Reviews

### The Food Producing Garden.\*

THE writer of this work has made one outstanding error—he has vainly attempted to cover an enormous amount of ground in an impossibly small amount of space. Not counting the Index, the book runs to 94 pages, and deals with fruit and vegetable growing, beekeeping, poultry, ducks, rabbits, pigs and goats. As a result we get a smattering of knowledge on these and kindred topics, but many of the points which puzzle amateurs have had to be left untreated. Why has the book been spoilt in this way? That is a question we should like to put to the author. A useful chapter is given on The Allotment, but to attempt to give all the essential facts connected with vegetables in a seven-page chapter on The Vegetable Garden is obviously foolish and childish. What there is of the book is fairly well written, though there is room for improvement here. Why is the author so foolishly fond of italics, we wonder? There are hundreds of italicised words in the book which are quite unnecessary, and these serve to spoil the book to a great extent.

### Fruit Bottling and Preserving.†

THIS excellent little book by Mrs. Beckett, wife of the well known head gardener at Aldenham House, contains much useful information on the preserving of surplus fruit, and will appeal to a wide circle of readers. The directions are given in homely simple language, such as anyone can understand, yet one has a feeling that Mrs. Beckett understands the various operations thoroughly. Although lacking in any scientific pretensions there is every evidence that the authoress has been successful with many different kinds of fruits, and we have no doubt that if her instructions are carefully followed out success will attend the efforts of others.

### Journal of the Royal Horticultural Society. ‡

VOLUME XLIII., Part I., is now to hand, and contains numerous articles and reports of great interest to gardeners and many others at the present time. The R. H. S. rightly attaches much importance to food production and gives prominence in the present volume to articles dealing with this subject. That by Mr. Edwin Beckett, an expert cultivator, contains much information and many useful hints. Mr. Beckett believes in thorough cultivation of the ground, and in this we agree with him, as where deep

cultivation is constantly practised less is heard about want of manure, both natural and artificial.

Increasing the Home Food Supply is ably dealt with by Mr. E. A. Bunyard, who naturally confines himself to fruit growing and gives many helpful hints on manuring, varieties, gathering, storing, &c.

Other interesting articles are The Herbaceous Border, by John Dickson; Snowdrops, by E. A. Bowles, M.A.; Delphiniums, by A. Perry; Hardy Border Carnations, by J. Douglas; and A Year in a Garden in N.W. Scotland, by O. Mackenzie—the latter is full of interest and information from start to finish, and will be a revelation to many who have a hazy idea that Scotland is somewhere in the Arctic regions. Mr. J. K. Ramsbottom writes on the Narcissus Disease, on which he has spent much time with good results.

The whole volume is full of useful matter. The price to those who are not Fellows of the Society is 7s. 6d.

### Canning and Bottling of Fruits and Vegetables.\*

THIS excellent book would be welcome at any time, and is doubly so in the present critical state of our food supply. Too little attention has been paid in the past to the preserving of fruits and vegetables for use in the winter and spring. Thousands of people are expert in the making of jam at home when sugar is available, but comparatively few know anything of canning and bottling without sugar. Dr. Goodrich has studied the subject thoroughly and brings to bear on it a training in science without which no author could hope to produce a reliable book giving instructions in simple language such as the best educated people always use. The secret of successful preserving lies in destroying and excluding harmful bacteria; the methods to employ are best understood by a trained biologist, and Dr. Goodrich has succeeded in setting forth her instructions in such a way that the housewife, as well as the large manufacturer, can readily follow her.

Sterilization by heat includes—apparatus required, preparation of produce, methods of bottling and canning, causes of failure, etc. Other methods of preserving are ably dealt with in Chapter IV., while suitable methods for special fruits and vegetables are given in Chapter V.

On page 28 is given a chart showing at a glance the products to be canned, preparation and time for cooking at 212° Fahrenheit.

Dr. Frederick Keeble, Controller of Horticulture, contributes an Introduction and pays a well deserved tribute to Dr. Goodrich's work in training people in the art of food preserving.


We heartily commend this useful book to the notice of our readers, many of whom are in an excellent position to assist in the conservation of fruits and vegetables and only lack simple directions as to methods and apparatus required. It is our conviction that the issue of this little volume will be the means of inducing many people to adopt canning and bottling and to continue the practice long after the war is over.

"Canning and Bottling of Fruit and Vegetables." By Dr. Helen Goodrich, D.Sc. Published by Messrs. Longmans, Green & Co., 39 Paternoster Row, London, E.C.4. Price 2s.

\* "The Food Producing Garden." By Harry A. Day. Methuen & Co., Ltd., London. 1918. Price 2s. net.

† "Country Life," Ltd., 20 Tavistock Street Covent Garden, W.C.2, and Geo. Newnes, Ltd. 8-11 Southampton Street, Strand, W.C.2.

‡ Sold by W. Wesley & Sons, 28 Essex Street, Strand, London, W.C.



## September The Month's Work.

### Southern and Western Counties.

By W. CAMPBELL, Head Gardener to Lord  
Castletown, Doneraile Court, Co. Cork.

#### THE VEGETABLE GARDEN.

**CABBAGE.**—Plants from the July sowing will now be ready to plant out. Ground from which the Onion crop has been lifted, or the Potato plot, will both be very suitable for planting winter Cabbage on. All that is necessary is to clear the ground of weeds and level over. The smaller plants, and also those from the August sowing, should be transplanted thickly into a dry and airy piece of ground to winter.

**TRIPOLI ONIONS.**—If from any cause the August sown Onions have not done well, another sowing can still be made on a warm border. Spring sown Onions will be ready to lift during the month. If the weather is fine they can be spread out on the ground where they were growing to dry, or if the ground is required immediately for other crops spread them out on a sunny walk, where they can be turned occasionally. If the weather is very wet they must be removed to an open shed to be thoroughly ripened before storing.

**LETTUCE.**—Sow a little more seed for planting under glass next month; also sow some more Cauliflower seed in a frame, or where a frame can be placed over them, before frost can harm them.

**POTATOES.**—Lift all Potatoes that have finished their growth. See that they are dry before covering them, whether they are stored in houses or in pits in the open. If they are covered while wet they will probably heat, and so spoil the lot.

**BRUSSELS SPROUTS.**—Keep the Dutch hoe going through these whenever possible, and draw up the earth to the lower part of the stems: it will help to keep them from being blown about. Some of the lower leaves can be removed if they appear too crowded, to admit more light and air.

**CELERY.**—Continue to earth up main crop Celery. Leeks planted in trenches will also require to have the earth drawn up to them. Lift carefully and store Globe or Turnip-rooted

Beet. Do not cut, but just twist the tops off with the hand. If a frame can be spared lift some Parsley roots and plant them in it; when there is a shortage of Parsley in the spring-time, it will come in very useful.

**TOMATOES.**—The foliage should be well cut back to expose the fruit to as much sun and light as possible. About the end of the month, if there are any signs of frost, remove all the foliage, cut the stems below the lowest truss and hang them up in a greenhouse or any dry warm room, where most, if not all, will ripen.

There is usually a fine crop of seedling weeds making their appearance at this season of the year; these can best be destroyed by hoeing and rough-raking on fine dry days. All rows of Peas and Beans that have finished bearing should be cleared off and burned; they look unsightly if left standing. Any sound pea stakes should be put one side for next season's use.

#### THE FRUIT GARDEN.

Since the rainfall which commenced the latter part of July, there has been a great improvement in the Apple crop as regards size, which will help to compensate in some measure for the light crop which appears to be general all over the country. Some of the early sorts will now be ready for gathering. Get the fruit room thoroughly cleaned in readiness for them. Those who have not had much experience in pulling Apples are sometimes puzzled to know when a tree is ready to gather. The fruit should part readily from the spur without any force being used; also when the pips or seeds are beginning to turn a brown colour. But it is a great mistake to pull apples before they are quite ready; they soon shrivel and lose their value either for table or market use.

**STRAWBERRIES.**—Finish planting Strawberries as early in the month as possible, so that they may get firmly rooted into the ground before frosts come. Keep old plantations free from weeds and all runners cut off.

**PEACH** trees that have been cleared of their fruit should have some of their smaller shoots loosened out, to admit more air and light to the tree. If red spider is troublesome a few good syringings will clear it off.

Cut away all old Canes of **RASPBERRIES** and **LOGANBERRIES**, and tie up the young canes in their place.

Now is a good time to look around the fruit garden and make a note of any tree that may require to be root-pruned. If there are any trees or bushes of poor quality or showing signs of decay, it is just as well to condemn them at once, so that better sorts may be ordered to take their place when planting time comes around.

### THE FLOWER GARDEN.

Finish propagation of all summer bedding plants. Calceolarias are best rooted in a cold frame. Heliotrope, Salvias, and the more tender subjects should be rooted in boxes and placed in a warm greenhouse. Any plants that have been plunged out in the beds and will be required again for the greenhouse should be lifted before any frost catches them. Keep all bedding plants as hardy as possible by admitting air on all favourable occasions.

CARNATIONS.—Those layered in July should now be ready to sever from the parent plant and transferred to their own flowering quarters. The ground should be well prepared for them by deep digging; at the same time work in some half-decayed leaf-mould and plenty of old lime rubble. Lift the young plants carefully with a hand fork or trowel, and plant them on ground that has been made firm by treading. This is a good time to plant bulbs of *Narcissus* in the grass. Forced bulbs do splendid for this purpose. I prefer to mix the bulbs (before planting)—early, late and intermediate sorts altogether—and plant rather thickly. This gives a long season of flower. We have here several acres planted in this manner, and there is a continuous bloom from early in March, when *Princeps* starts blooming, until the latter end of May, when *Petieus grandiflorus* (Giant Pheasant's Eye) finishes up the season.

## Midland and Northern Counties.

By E. RUTHERFORD, Gardener to Lord Farnham, Farnham House, Cavan.

### KITCHEN GARDEN

CABBAGES.—The first plantation of Cabbage for an early spring crop should be made as soon as the plants are large enough. They may follow Onions, merely breaking the surface of the soil with a digging fork. Plant in rows 18 inches each way. As soon as the growth starts hoe the surface between the plants, it will encourage the growth and destroy any weeds. Dust the plants and ground with lime to destroy slugs.

FRENCH BEANS.—Growing in cold pits should be ventilated freely, while the weather is favourable. Water with weak liquid manure, and syringe the foliage with clear water. If slugs are troublesome, dust with soot or lime.

LETTUCE.—Seedling Lettuces should be transplanted from the seed-bed as soon as fit to handle. Plant in rich soil, and allow plenty of space at this time of year, so that the hoe can be used

among them. Another sowing of a good hardy variety may be made to stand the winter.

PARSLEY.—In order to provide a supply of Parsley during the winter, sufficient plants to maintain a supply should be lifted and planted in a frame; lift with as large a ball of soil as possible, which will prevent the leaves turning yellow. Give a good soaking of water.

CELERY.—Take advantage of the dry weather to add more soil to the early batch of Celery, as advised to be done last month. Late-planted Celery should be carefully gone over and all side growths removed as well as discoloured foliage; give a good soaking of liquid manure; keep the ground among the rows free from weeds; pulverise the soil thoroughly before earthing it up, and firm it well about the plants.

SPRING-SOWN ONIONS.—Let the bulbs be dried thoroughly before they are stored, place them on a hard clean surface and turn them frequently until they are quite dry, afterwards place them in a dry airy loft or tie up in hanks and hang up in some suitable place.

POTATOES.—Second early varieties should be now lifted, as there is nothing to be gained by leaving them in the ground after the skins are set. Lift carefully, and allow them to remain exposed to the sun for a few hours before storing them. Any required for seed should be kept separate and placed in boxes or shelves in a cool airy shed.

WINTER SPINACH.—This is a very important crop, and the plants should be thinned as soon as they are large enough to handle, and if required, the thinnings may be transplanted. If the weather be dry, water until the plants catch hold of the ground.

HERBS, such as Thyme and Sage, that require renewing, may be done now by means of cuttings, and the present time is suitable to propagate by means of cuttings. They root quite freely from side shoots about 4 inches long. Give them the protection of a cool frame, and prick the cuttings into a shallow bed of soil 4 inches apart. Water and keep the frame close.

REMARKS.—Hoe the soil between all growing crops, for it is important that the surface be thoroughly broken up and all the weeds be destroyed before the days become short. All weeds grow rapidly during this month on account of heavy dews at night. Clear all ground of crops that are over.

Pea stakes should be removed as soon as the crop is pulled; they are very unsightly if left in the ground once the crop is past.

### THE HARDY FRUIT GARDEN.

APPLES.—Early cooking sorts, such as Lord Grosvenor and Lord Suffield, are ripening rapidly and are fit to gather, and no time should be lost in doing so, as when the fruit falls and becomes damaged it soon rots. In the case of other varieties be sure they are ripe before gathering. A good test is to examine the pips of a few

specimens: if they are not quite brown wait until they are. When gathering the fruit remember that the least mark or bruise on the skin will set up decay.

Dessert varieties, especially Beauty of Bath and Irish Peach, are best gathered from the trees just before they are required.

WALL TREES.—Trees on the walls have grown luxuriantly this season owing to the poor crops, and a difficulty may be experienced in getting the wood ripened. Remove all growths not required on Apples, Pears and Plums as soon as possible.

PEARS.—As in the case of Apples, early varieties of Pears are not improved by being kept after they are gathered. It is a mistake to gather the whole of the crop at once, even off all the trees of a particular variety. As soon as the fruits will part freely from the stem when gently bent upwards, they should be gathered. A few should be placed in shallow boxes and put on top of warm pipes (not hot). They will soon become fit for use.

#### THE FLOWER GARDEN.

LAVENDER.—This is the best time for taking cuttings of Lavender. Select short, stumpy cuttings from the upper and exposed parts of the plants. Insert the cuttings in a cool frame in sandy soil. Water to settle the soil, and keep the frame closed.

VIOLETS.—Frames should be prepared by filling them with some stable manure and leaves well trodden down and covered with about 8 inches of soil, afterwards allowing the bed to settle down before planting. Soak the roots of the Violets with water the day previous to lifting them, they will lift with plenty of soil attached, plant firmly and arrange so as the tops of the leaves will be within a few inches of the glass. Water to settle the soil and spray the plants during fine weather, and keep all runners removed and decaying foliage. The lights must not be placed on them until the middle of next month.

BORDER CARNATIONS.—The layers of Carnations to be used for planting must be detached from the parent plant a few days previous to planting by severing the stems with a sharp knife. Let the ground be thoroughly prepared before planting, adding plenty of well-rotted leaf-mould and some wood ashes. Lift each root with a ball of soil: do not plant deeply, but make the soil firm.

#### Allotment Notes.

THE GARDEN FIRE.—The smother fire is a useful institution, which should be seen in more gardens and allotments. A well-made fire will smoulder for a considerable time, and on it all garden refuse may be deposited. Cabbage stumps, decayed caves, weeds, finished and exhausted plants, potato haulms, etc., can by this means be thoroughly destroyed, and it is the best receptacle for all diseased and insect infested plants and leaves. The ashes from such a fire should be carefully saved, forming as they do a very valuable fertiliser to be scattered over the soil and forked or dug in.

ROTATION OF CROPS.—Many hold the belief that the Potato must or should be put into fresh

ground each season, but this is not the case. Provided the soil is deeply worked and suitable enrichment is added, Potatoes can be grown on the same site for an indefinite number of years. Change of seed should be obtained, however, from another district. The Brassicas differ from the Potato inasmuch as for these one season at least, and two for preference, should elapse before a return to the same spot. This arrangement, unfortunately, is not always possible in a small garden, and here deep trenching and the judicious use of lime must be resorted to.

Another subject which has no objection to remaining on the same site for a number of years is the Onion, provided the ground is well enriched. Peas should always have a fresh place selected for them, wherever possible, each year, failing which deep trenching must be done.

Some of the other vegetables thrive well on the same site for a number of years, and of these the best known and most useful are Leeks, Shallots, Artichokes (both Globe and Jerusalem), Horseradish and carrots.—*Journal of the Board of Agriculture*, July.

#### Perpetual Flowering Carnations in a Cold Greenhouse.

THERE are few more popular flowers than the Carnation, but the Perpetual Flowering section is perhaps the most adaptable of all. However, their hardiness is not generally recognised, and yet few plants are more adapted for cold greenhouse cultivation. They can apparently withstand very severe frosts, but the one great essential point is, that in a cold greenhouse the plants must have a free circulation of air, both at night and day, so as to promote a fresh buoyant atmosphere. A close confined atmosphere not only weakens the growth of the plants, but also invites disease; the blooms also are inclined to damp.

The plants now should be giving good supplies of bloom, and will continue to do so until the very severe weather commences, when some of the most forward buds and blooms will be injured, and the growth of the plant temporarily retarded, but the plants themselves are not injured by this, and in the early Spring the growths will be stronger for the brief rest, and the blooms much finer than from the plants grown in a mildly heated greenhouse.

Watering must be done with discretion, and the mornings of bright sunny days are the best opportunities, so that the surplus moisture is dried up before night, but, of course, during the winter months little watering is required.

Another aspect is the utilisation of cold greenhouses, which otherwise would be non-productive, and at times such as these, when flowers have perhaps their greatest mission in the world, every greenhouse which can be made to produce flowers should do so.

Regarding the best varieties to cultivate under hardy conditions, such as Beacon (scarlet); White Wonder, Mary Allwood (deep pink); May Day (pale pink); Mikado (heliotrope); Benora (pink and white); Triumph (crimson); Salmon Enchantress (salmon pink) and Wivelsfield White, could not be well improved upon, although practically all varieties are suitable.

Many amateurs plant their Carnation plants out in the garden in the summer, where they continue to produce great quantities of bloom.

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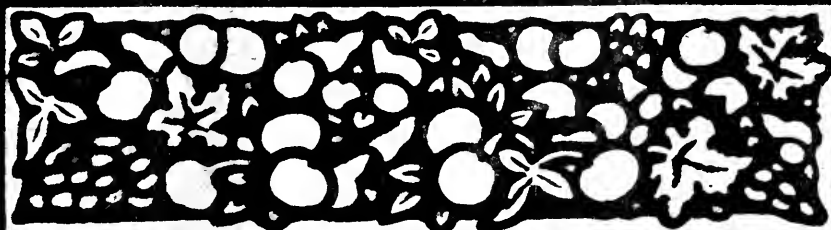
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# Irish Gardening

## Contents

	PAGE		PAGE
<i>Sedum pyramidale</i> . . . . .	145	Appointment . . . . .	154
Strawberries . . . . .	145	Climbing Beans . . . . .	154
Keeping up Food Production . . . . .	147	Allotment Observations . . . . .	154
Autumn Work in the Rock Garden . . . . .	148	The Immune Potato Trials . . . . .	155
Bulb Planting (Illustrated) . . . . .	148	Trial of Runner Beans at Wisley, 1918 . . . . .	156
Dwarf Rose Culture . . . . .	149	Royal Horticultural Society of Ireland . . . . .	156
September Flowers . . . . .	151	The Arboretum . . . . .	157
Notes—		Reported Missing . . . . .	157
<i>Pyrus Aucuparia Moravica</i> . . . . .	153	An Army Honour . . . . .	157
<i>Berberis candidula</i> . . . . .	153	The Month's Work—	
Rose Mrs W. H. Cutbush . . . . .	153	Southern and Western Counties . . . . .	158
<i>Crataegus orientalis</i> . . . . .	154	Midland and Northern Counties . . . . .	159
		The Song of Picardy . . . . .	160



# The Vegetable Products Committee

## **IRISH BRANCH**

**President—The Most Noble the Marquis of Headfort.**

**Hon. Secretaries—Sir Frederick W. Moore, M.R.I.A.,  
James Robertson, J.P.**

**Hon. Treasurer—D. L. Ramsay, J.P.**

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With the recognition and approval of the Admiralty and the War Office the **VEGETABLE PRODUCTS COMMITTEE** has been formed under the presidency of **LORD CHARLES BERESFORD** for supplying Vegetables, Fruit, Jam, &c., to the **NORTH SEA FLEET**, in connection with which the **IRISH BRANCH** has been registered at the Head Offices, London, and through whom all enquiries respecting Ireland's contributions to the project should be made.

"The most ample expression of our thankfulness can never repay the debt which the people of these Islands owe to the gallant Officers and men of the Navy, who, by their ceaseless vigil on the danger-strewn waters of the North Sea, are maintaining us in comparative peace and quiet."

The Committee of the Irish Branch appeal for help in maintaining, as far as possible, regular supplies to the **NAVAL BASE** allocated to them, both by Gifts of Vegetable Products and contributions of money to supplement the supplies by purchase in the Market. Such gifts are urgently required to keep up the supply during the trying winter months.

The Hon. Secretaries invite enquiries, and will be pleased to give information and particulars as to forwarding gifts, on application. Remittances to be made to **MR. D. L. RAMSAY**.

**Offices of the Royal Horticultural Society of Ireland**  
**5 MOLESWORTH STREET, DUBLIN**

# IRISH GARDENING

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1918

EDITOR J. W. BESANT

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## Sedum pyramidale.

By R. LLOYD PRAEGER. B.A., B.E.

THIS remarkable sedum, which has recently flowered abundantly at Glasnevin, was collected in 1915 by Mr. Reginald Farrer (No. 336) on roofs and rocks in and about the town of Siku, in Kansu, China, and I described it under the above name in the "Journal of Botany" last year. In Mr. Farrer's recently published book dealing with his Chinese travels, Siku figures prominently, and many interesting plants were gathered in the neighbourhood, of which the present species, a conspicuous feature of the vegetation of the roofs of pagodas and houses, is by no means the least remarkable. The plant is perennial, glaucous, and very brittle, with flowering stems 6 to 12 inches high and short barren stems bearing rosettes of leaves. These leaves differ so much in shape at different seasons that they might easily be thought to belong to different species. When the plant is in full growth they are linear, very fleshy, an inch long, spine-tipped, and laxly disposed. Then as growth proceeds they change their form, and a dense egg-like, spiny rosette of short, flat leaves is produced, very similar to the winter rosettes of *Cotyledon spinosa*; this is intended, no doubt, as a protection against summer drought or winter cold, or both. In the second year of their growth the rosettes shoot up to flower, producing a dense pyramid of blossom up to a foot in height. The flowers are white and starry, and are peculiar in having the carpels distinctly stalked.

The only Stonecrop hitherto discovered to which this plant appears to be akin is *S. Chaneti*, but that species is so inadequately described that all that can be said is that the two are certainly distinct. *S. pyramidale* is not hardy, but after a little preliminary trouble it has grown freely at Glasnevin, being kept under glass during the winter. The plant is still very rare in cultivation.

## Strawberries.

THE Food Production Department has recently (30th July, 1918) addressed the following memorandum to Agricultural Executive Committees\*:—"On 27th November, 1917, the Department issued a memorandum to Agricultural Executive Committees suggesting that while it was not desirable to reduce the area under Strawberries, Committees might take steps to restrict any increase, but the inquiries of the Department show that there has in fact been a considerable decrease in the strawberry acreage. The area devoted to this crop in England and Wales on holdings over one acre was 23,374 acres in 1914, but there has been a progressive decline in each subsequent year, and it is estimated that the area at present does not exceed 10,000 acres. The supplies from the present acreage are quite insufficient to meet the demand for jam both for the navy and army and the civilian population or to provide any surplus of fresh fruit.

Moreover, as a result of the discontinuance of fresh planting during the war, the majority of the remaining beds are old and worn out, and will be grubbed up as unprofitable at the present controlled prices. It is essential, therefore, that a considerable new area should be planted next autumn and spring, and the Department have decided accordingly to withdraw their memorandum of 27th November, 1917, and to encourage re-planting so as to secure an increase in the present area up to the acreage of 1914.

Agricultural Committees should, therefore, let it be known that no objection will be taken to new plantations, but they may stipulate that they should be intercropped with a

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\* Journal of the Board of Agriculture, Aug., 1918.



GROUP OF GIANT SNOWDROPS.

food crop during the first year after planting."

Fruit growers will note the above memorandum with satisfaction, and we may regard it as to a certain extent instructive. On the one hand there is the fact that growers have been profoundly dissatisfied with the price fixed for the past season's crop, and many have threatened to give up the cultivation of strawberries entirely. Some allusion to this is made in the memorandum, and it is reasonable to infer that while urging an increase in planting, arrangements will also be made to ascertain at what price growers may sell so as to reap a fair profit.

On the other hand it shows that the Strawberry crop is now regarded not as a luxury but as an essential food crop, to be encouraged as well as Wheat and Potatoes. There is no denying the paramount importance of the bulkier farm crops in providing food, but there has undoubtedly been a tendency both in official circles and in the Press to regard most horticultural crops as comparatively unimportant. This is by no means the case, and if we recollect aright the acreage under Rhubarb in England was considerably reduced in favour of wheat. The result is that where Rhubarb had remained eminently satisfactory, prices have

been obtained, and this article has been keenly bought throughout the summer and autumn.

A shortage of butter which might have been foreseen resulted in a wild rush to manufacture a substitute in the shape of margarine. Much of this is far from palatable eaten with bread, and in most cases jam would be preferred. We are not out to criticise, however, but to urge that every encouragement be given to the fruit industry in Great Britain and Ireland.

Of fruits specially suitable for jam making Strawberries, Raspberries, Loganberries and Black Currants and Gooseberries are important, and every effort should be made to increase the acreage under each, but if commercial growers are to increase their plantations it may be necessary to guarantee them reasonable prices for their produce in the same way that farmers are assured a fair price for their corn for some years to come.

Indiscriminate planting should be guarded against—the same soil and situation will not suit all fruits. A heavy, moist soil will produce enormous crops of Black Currants, but is less suitable for Strawberries and Raspberries, which prefer a medium soil well drained.

Gooseberries and Loganberries are successful in most soils, but are certainly less remunerative on shallow soils which soon dry out.

It is to be feared that one great obstacle lies in the way of increasing plantations of some kinds of fruit, and that is, that nurserymen have been unable, through want of labour, to maintain their stocks of young plants. It is all the more important then that every effort be made this autumn to get in as many cuttings of bush fruits as possible. Here, too, caution is necessary, and young plants should be propagated only from healthy stocks. American Gooseberry Mildew and Big Bud in Black Currants must be guarded against. Private gardeners with clean, healthy stocks might with advantage propagate largely this autumn, subsequently planting sufficient for their own use and selling the surplus.

It may be long after the war ere many food stuffs become cheap again, and the demand for jam is likely to increase.

Vegetable growing has received much encouragement from the State, and fruit growing is likely to be better looked after in the future. Flowers too, though perhaps less important in war time, are not to be despised, and France, despite her trials and agonies, has continued to grow flowers for seed, and bulbs of many rare and beautiful kinds for export.

The horticultural industry, therefore, is not the luxury of a few, but has become of national importance.

## Keeping up Food Production.\*

THE necessity continues for growing all the food we possibly can, and every effort must be made to utilise all available ground as late in the season as planting can be reasonably carried on.

October is an important month in this respect. The soil has not yet become cold and the days are usually conducive to a certain amount of growth. In fact in mild autumns growth is often too rampant, and a sharp spell of hard frost about Christmas or later often plays havoc among such crops as Broccoli and also Cabbages sown in July. Some crops, however, such as August sown Cabbages, Onions, Lettuces and Cauliflowers are generally in right condition for planting in October. If the soil be well firmed before planting growth will be slower and the plants will become hardened and capable of withstanding the harsh weather of winter and early spring. Cauliflowers, in well-equipped gardens, are generally transferred from the seed bed outside to a cold frame where they are easily protected from too much moisture and are sheltered from very hard frost though never completely closed up at any time. Where a cold frame is not available it will be advisable to leave Cauliflowers in the seed bed where they will shelter each other. We often find that the surplus left in the bed after removing sufficient to fill a frame, comes through the winter fairly well, and makes good plants for putting out in April.

August sown Cabbages may be put out in October where they are to mature, after late Peas, Potatoes, or spring sown Onions according to individual requirements. The soil should not be made too rich. In fact, following any of the above mentioned crops no manure is required unless the soil is naturally very poor and shallow. Small hearting varieties, and they are generally best for early work, need only be planted fifteen inches apart: these include such varieties as First and Best, Ellams Early, Early Etampes, Harbinger, Sutton's April, Sutton's Favourite; while varieties such as Flower of Spring and Mein's No. 1 require eighteen inches.

Onions come next in importance, and from seeds sown in mid-August good plants should be available for planting out in October. There are several varieties recommended for autumn sowing, notably the Tripolis, red and white Italian and Giant Rocca. The latter, in the writer's experience, is the best keeper, forming a medium-sized firm bulb of a fine ruddy brown colour. Ailsa Craig is frequently sown in

autumn, and heavy crops often result, but better results, probably, are got by sowing this variety in mild heat in January.

Autumn sown varieties may be planted out in October in well tilled ground which has carried a summer crop of Peas, Potatoes, Cabbage, or Cauliflower. Plant nine inches between the plants and at least a foot between the rows. Overcrowding is a mistake and favours the spread of mildew, which on occasion attacks the autumn sown varieties as well as those sown in spring.

Lettuces, such as Hardy Hammersmith, Stanstead Park and Brittany Winter White, can be recommended as reliable. Sown in August, they are fit to prick out in beds early in October and soon become established. In fairly light, well-drained soil they will stand the winter well and come in for use in spring. In cold, wet soils failure is sometimes recorded due to the excessive growth of the transplanted seedlings in autumn. In such districts a sheltered position at the base of a wall where the soil is drier will usually give the desired result. On allotments where choice of position



DAFFODIL SIR WATKIN, IN STONES AND WATER ONLY.  
Grown by the Students, Killarney School of  
Housewifery.

\* Publication unavoidably delayed.

and soil is limited a special bed may be formed about four feet wide, digging out the soil on each side to a depth of four to six inches and throwing it on top of the bed, thus forming a path on each side which drains the raised bed, making it drier for winter work.

## Autumn Work in the Rock Garden.

DURING this month a great deal of useful work can be done among Alpines, especially those of a more robust nature. There as in the herbaceous borders many plants become overcrowded with shoots and get weak and patchy in the centre. It will often be noticed that the strongest and healthiest plants or portions of plants are round the sides of a pocket. There is only one remedy in such a case, and that is to lift the plants, detach the strongest pieces with roots attached and re-plant. Before doing so the soil in the pocket should be renewed, taking advantage of the occasion to add drainage if necessary in the bottom of the pocket. The composition of the soil may require to be varied for different plants, but at this time of year the more exacting alpines are better left alone as far as re-planting is concerned, but many of them may, with advantage, be top-dressed. Those that oftenest want dividing and re-planting at this time of year are *Aster alpinus* and its varieties *A. diplostephioides* and *A. subcoeruleus*, which is a good plant in large rock gardens; also such plants as *Heucheras*, *Campanula carpathica* and its varieties *Veronica Tenerium* and varieties, *V. austriaca*, *Solidago virgaurea* *nana*, *Erigerons* of various kinds, *Gemm. montanum*, *Gemm. chilense* and others, *Lychnis viscaria* and varieties, *Pulmonarias*, and so on. For all of these an ordinary compost of loam, leaf-soil and sand, with some coarse grit added, is sufficient. Dealt with now they have time enough to become established ere hard weather sets in, and will generally flower well the following summer.

Many other alpines which resent disturbance nevertheless benefit from annual top-dressing. In fact it is well to go over them twice a year, in spring and autumn. Those that make many rhizomes on or close to the surface are apt to get poor unless regularly top-dressed with sandy soil and leaf-mould. Others again form spreading prostrate stems which, given a little encouragement, root as they grow, and so re-invigorate the plants. All old flowering shoots

should be removed, as by this time most of the seed required will have been collected.

Nothing in the way of a shelter for slugs should be left, consequently it is advisable to clear away all dead and decaying leaves and flower stems. In some cases this is like taking away the plant's natural protection, but this is compensated for by the top-dressing, and in extreme cases where protection from too much moisture is required, it is better to place a square of glass over the plant, raising it some few inches to allow a free current of air to play over it.

*Saxifragas* of the *Burseriana* set are often disappointing when grown on flat pockets—no matter how good the drainage—and the cause is very often too much overhead moisture in autumn. Such kinds repay covering with glass even as early as September.

Where shrubs are grown on rock gardens, and many are, quite legitimately they want close attention. At first they are welcomed as giving a furnished appearance, but they have an insidious way of encroaching on choicer things. Specially to be guarded against are the various creeping *Cotoneasters*, which will soon take charge of the whole rock garden if not kept within bounds.

B.

## Bulb Planting.

ALTHOUGH the "bedding out" of bulbs is for the time being out of favour, there are nevertheless many places about our parks, gardens and woodlands quite unsuitable for growing fruits and vegetables. In such places many kinds of bulbs may be naturalised with fine effect; indeed there they look much more beautiful than in formal beds. Very little preparation of the soil is necessary; indeed shortage of labour makes it impossible, but some consideration may be given to the kind of bulbs to be planted. It is not advisable, for instance, to plant *Daffodils* or *Snowdrops* in poor, dry soil—they rarely establish themselves, and only give disappointment.

There are many methods recommended of planting the bulbs, but few are better than making holes with a medium-sized crowbar. The holes should be made deep enough and wide enough to accommodate the bulbs comfortably, so that they will be about four inches below the surface. The bottom of the hole will be narrow, and to obviate the bulb being suspended over a hollow a handful of fine soil must be put in first; on this place the bulb and fill up the hole with more soil. Avoid planting in

straight lines by scattering the bulbs at random over the space to be planted, making them fairly thick in places and thinning out in others.

There are few bulbs more effective than Daffodils for planting in grass and through thin woodlands. Many varieties are available, the scarcest being good yellow trumpets, few of which are good for planting in grass. Few, if any, can beat Emperor, and for early blooming Golden Spur, Henry Irving and Ard Righ. Bicolors are more plentiful, though Empress is hard to beat still, also Horsefieldii and Victoria. Sir Watkin is still one of the finest of the medium-crowned section, and there are many of the Leedsii section and of the Barrii section which look beautiful when planted in grass and under trees.

*Scilla nutans*, the so-called "Bluebell," and the blue, pink and white Spanish Squills make a very lovely display after the Daffodils and Snowdrops.

Crocuses are beautiful in thin grassy places under deciduous trees, but are difficult to obtain at present. The Winter Aconite is beautiful where grass and other herbage is not too dense, and flowers with the Snowdrops and earlier, while masses of *Scilla sibirica*, *Scilla bifolia* and *Chionodoxas* are beautiful on the rockery and in borders and shrub beds. Muscaris or Grape Hyacinths are effective on banks and by woodland paths, none being finer than Heavenly Blue for this purpose.

## Dwarf Rose Culture

By D. McINTOSH, Danm, Rathgar.

Those who are desirous of planting dwarf roses during the current year have no time to lose in preparing the ground for the reception of the plants. The ideal site should be an open and sunny place sheltered from high winds. Oblong beds, five feet in width, with grass or gravel paths between each bed, are much to be preferred, as they will prove a great convenience to the cultivator when cutting the flowers and working among the plants. As a great deal depends upon the preparation of the soil, whether it be naturally of a light or heavy texture, to ensure success, a special effort must be made to trench the beds sufficiently deep—say, 1½ to 2 feet—and heavily manure as the work of trenching proceeds. A deep loam of a greasy nature is best suited to the rose. Therefore, if the soil be light, incorporate clay or

loam in addition to the manure. If the soil be heavy, add burnt earth, sand, or leaf-mould. During the interval, and while the newly-trenched ground is somewhat settling down, rose plants in variety may be ordered from a reliable nurseryman. The latter end of October or the early part of November is a good time to accomplish the actual planting operation, provided, of course, the weather conditions are favourable. Never plant when the soil is over-wet or sticky, rather wait patiently for a more ideal opportunity. Three rows should be marked out in each bed, keeping the plants across the bed, at 1½ feet apart and along the bed at 2 feet apart, leaving a distance of one foot between the plants and the grass edge or path all round. This arrangement will allow ample space and prevent overcrowding. When the holes have been taken out to a depth of 6 inches or so, set each plant into its allotted place, keeping the union of the stock and the bud 2 inches beneath the surface. Spread out each root very carefully, taking particular care that two roots do not cross each other or coil round. Fill in with the finest of the soil and tread it firm. The uppermost roots should not be more than 2 inches beneath the surface after planting. When the planting is completed, some of the more vigorous shoots may require a stake affixed to prevent wind-shake until the plants become established. Spread out light manure to the depth of 2 inches around each plant to encourage root-action and as a protection against frost. The 1st of April will be soon enough to apply the knife for the first pruning. At this pruning it is good practice to cut all matured shoots well back to two or three buds from the base of the shoot. By so doing, this ensures a good foundation to the plant for its future well-being. Always cut back to an eye looking outwards, all the time keeping the aim in view of forming a nicely balanced plant with an open centre. Pick up all prunings and have them removed to the rubbish heap to be burned without delay. Remove the old manure around the plants and merely prick over the soil to loosen the surface and to give a tidy appearance. As soon as the dormant eyes have made about half an inch of growth, a little disbudding should be carried out, so that the plant may not be over-taxed with unnecessary and spindly growth. At this stage keep a sharp look out for an appearance of green fly, which, if allowed to remain untouched, will soon weaken the strength of the plants very considerably. To kill the pest, apply Quassia Extract according to instructions given on the tin in good time in order to keep the plants clean and healthy. As soon as the



flower buds begin to form, some of the shoots will require disbudding, particularly those varieties which produce dense clusters at the ends of the shoots. But it is not wise to do all the disbudding on one plant at one operation; rather take off a couple at a time on alternate days. Too many side buds taken off at one operation tend to harden the remaining buds,

farmyard manure laid on. This will conserve the moisture and prove an excellent stimulant to the plants. Regular hoeing of the surface soil during the plant's season of growth is also beneficial. On the first appearance of mildew take every precaution to keep it in check. One of the best remedies is flour of sulphur dusted over the affected parts. Sulphide of potassium



COTTAGE TULIP MRS. MOON,  
A beautiful yellow variety for borders.

with the result that the desired flower buds fail to open kindly and well. Now is the time the "Worm in the Bud" often comes on the scene, so close observation is most desirable to find out the culprit's whereabouts. This pest will prove most destructive if not searched for in time, and his career brought to an early close. In the event of a long spell of drought during the spring or summer months the plants must be given copious supplies of water at the roots and afterwards a mulching of decayed

may also be used, one-quarter ounce to the gallon, and applied with a syringe. If the plants have done well during the summer several of the long shoots will require affixing to a stake to prevent swaying by high winds. Many plants come to grief through this neglect. Some growers cut off the tops, then no stake is needed. But it is much better practice to stake and allow the shoots to complete their season's growth. By so doing, dormant buds are less excited and additional root action is en-



sured for the well-being of the plant in the forthcoming year.

The following are a few of the best varieties in each class:—

*Hybrid Perpetuals*.—Alfred K. Williams, Charles Lefebvre, Frau Karl Druschki, Hugh Dickson, Mrs. John Laing, and Mrs. R. G. Sharman Crawford.

*Hybrid Teas*.—Caroline Testout, George C. Waud, J. B. Clark, Kaiserin Augusta Victoria, La France, Lyon Rose, Mrs. W. J. Grant, and William Shean.

*Teas*.—Bridesmaid, Madame Constant Souper, Maman Cochet, Molly Sharman Crawford, Mrs. Edward Mawley, The Bride, Catherine Mermet, and Comtesse de Nadaillac.

ing May. It is such a beautiful plant that it is worth while taking a little trouble with it.

Gladioli made a good show and proved their value for late flowering. The popular variety, *America*, is always admired for its soft pink flowers, while the old *Brenchleyensis* grew remarkably well, producing fine spikes. A collection of varieties obtained from France produced some fine spikes and colours, perhaps the best being *Étincelante*, five feet high, with long spikes of large flowers of a rosy red shade.

The *primulinus* hybrids are distinct, though not so bold as the larger kinds belonging to the *nanceianus*, *gandaveasis*, *ragae*. The colours, however, are most pleasing, giving shades of yellow and orange not seen in the others.



TULIPA DASYSTEMON.

A beautiful species for the rock garden.

## September Flowers.

ALTHOUGH September was one of the wettest months experienced for a long time there was nevertheless quite a fine display in the garden. Had the weather been fine, no doubt many plants would have remained longer in beauty; on the other hand, some seemed to enjoy the damp weather. Conspicuous among herbaceous plants were groups of the handsome *Gilia coronopifolia*, the plants four feet high, the upper part of the stem densely furnished with flowers of a beautiful crimson scarlet. The plant is unfortunately a biennial only, and is best sown about July and wintered in a frame or house free from frost, planting out the follow-

Dahlias have been a conspicuous feature, and will keep on flowering till frost comes. Among singles, *Crawley Star*, pink, and white star have been conspicuous and make beautiful beds when closely planted. They do well planted through shrub beds and are good for cuttings. Among the collarette-flowered varieties, *Tuskar Henri Farman* and *Frogmore* have been remarkable. Among the large *Paeony*-flowered varieties *Queen Wilhelmina*, a fine, pure white, has made a very fine display, as has the *Rev. H. Berners*, fawn coloured, *King Leopold*, yellow, and *Liberty*, a striking variety, almost salmon-red in colour. There are many other varieties, and there is no doubt as to the value of the *Dahlia* for a late summer and autumn display. The *Agapanthus* is much hardier than is generally

supposed, and established clumps are very handsome, flowering in September.

The commonest species, *A. umbellatus*, grows and flowers freely with very little protection, producing handsome umbels of blue flowers on long scapes, well above the broad green leaves. A most attractive plant is *A. mooreanus*, sometimes considered distinct and again as a variety of the preceding. It is smaller in every way, but very free flowering.

*A. caulescens* is also considered a variety of *A. umbellatus*, but here at least is distinct in general appearance, forming a creeping root-stock and flowering less freely than either of the above. Under the name *A. Weillighi* we grow a very beautiful plant with pure white pendulous flowers borne on an erect scape; the leaves of this plant are quite glaucous. It appears to be a variety of *A. inapertus* which has blue flowers and glaucous leaves, and which was originally distributed under the former name. The largest form I have seen is one collected in South Africa for Mr. Maurice Prichard, of Riverslea Nursery, Christchurch, Hants, and distributed by him as *A. umbellatus Ardernei*. *Amaryllis Belladonna* has been less floriferous than usual, but is welcome nevertheless with its flowers of various shades of pink.

*Kniphofias*, still often called *Tritomas*, have made a truly fine display; by far the best in colour is *K. aloides erecta superba* with beautiful spikes of scarlet flowers carried erect instead of drooping on the stem, and nearly all, except those at the very top, open and in good condition at the same time; there are many other varieties all of much beauty and of great value for an autumn display.

The herbaceous *Lobelias* are indispensable in the autumn garden, and give a brilliance not produced by any other herbaceous plant at this time; these have often been alluded to in this journal, and it is sufficient to say that *Firefly* still holds its own in the front rank, but for exceptional vigour and brilliancy *Gloire de St. Anne's* (Morning Glow) is one of the finest garden plants in existence. Brilliant scarlet is the predominating colour, though there are pink varieties also obtainable.

The Willow-leaved *Gentian* is a variable plant in time of flowering; some forms flower much later than others and the different forms vary in height and in size of flower. The best is one known as *G. asclepiadea*, Perry's variety, sent out by Amos Perry, the well-known hardy plant nurseryman. It is a strong grower with large, deep blue flowers produced in abundance in September. It is a good border plant, and flourishes in the drier part of the bog garden.

*Primula pseudo-capitata* and *P. mooreana* are two fine September flowerers, making a fine show planted in masses about the damper parts

of the rock garden. *P. mooreana* is the larger of the two, with handsome rugose leaves and large heads of deep violet flowers.

An interesting plant for a warm border is *Xerine Bowdeni*, which appears to enjoy the same conditions as *Amaryllis Belladonna*, and flowers in September and October. The pink flowers, comparatively large for a *Xerine*, are produced in umbels on stout scapes, 15 to 18 inches high. This is a plant which deserves to be grown more frequently by all who care for beautiful plants in the open.

Autumn flowering *Crocuses* are beautiful from September onwards, and cheer the declining year as it draws to an end. Heavy rains and strong wind are greatly against them, hence some trouble should be taken in selecting a sheltered position for the various species. Narrow borders are often available and sunny nooks in the rock garden afford opportunities for a pretty autumn display. It is an advantage to have a carpet under the flowers to prevent the soil from being splashed over them by rain. *Paronychia Kapela*, a low growing creeper forming a dense mass of shoots, lends itself very well for this purpose. Some of those flowering recently are:—*C. nudiflorus*, with a long tube and of a light purple violet colour; *C. pulchellus*, light slaty blue; *C. Tournefortii*, light lilac, with a beautiful orange stigma; *C. speciosa*, bright lilac and striped with purple; *C. iridiflorus*, a gem with very large outer segments, lilac purple in colour. This is a very fine species, and should be in every collection of hardy plants. Another beautiful species is *Crocus vallicola*, with pale, creamy white flowers, the segments tapering to a fine, almost thread-like point. This species is rather scarce, but worth enquiring for among hardy plant people. Of shrubs, *Spiraea Anthony Waterer* has been noticeable; it is a useful plant for massing in the front of a shrubbery, and makes a good show with its abundant corymbs of bright carmine flowers. *Perovskia atriplicifolia*, with small grey leaves and spikes of pale blue flowers, is a fine plant for a sunny position in light soil, and should be pruned hard back in spring, as is the case with most autumn flowering shrubs. *Hibiscus syriacus* has flowered in many colours, and is useful late in the season, though here at least not always flowering so freely as this year. *Fuchsias* have continued to give a good account of themselves, and on the whole we must feel thankful for the many beautiful plants which September has provided; even Water Lilies, such as *Atropurpurea*, *Gladstoniana*, and *Colossea*, &c., have flowered freely, looking beautiful on the rare occasions on which the sun shone during this very wet month.

J. W. B., Glasnevin.

## Notes.

### *Pyrus Aucuparia Moravica.*

Among the many varieties of the Mountain Ash or Rowan Tree cultivated in our gardens, the Moravian Mountain Ash, a native of North Austria, is one of the most attractive. Its important differences are an upright habit, and larger fruits. In some respects the larger fruits are a disadvantage, the fleshy fruits when ripe at the end of September being a great attrac-

little evergreen bush up to two feet in height, possibly slightly more with age, and as much or more in diameter. The leaves are dark, glossy green above and white beneath. The flowers are yellow, followed by small oval, plum-purple fruits. An attractive bush for the front of the shrubbery border, its greatest value is in the rock garden, where its low evergreen habit and slow growing character will be much valued.

*B. candidula* is a native of China, and was first introduced by the French Missionary, Abbe Farges. We receive it from the late M.



DAFFODIL QUEEN OF SPAIN.

Naturalised in grass.

tion for blackbirds and thrushes. Against this is its value as a conserve, while in Central Europe it is said to be eaten by the inhabitants. Being a geographical variety, seedlings should come true if taken from an isolated tree, but in a collection of varieties, such as that at Kew, cross-pollination may be expected. In such cases grafting would be desirable, using the species *P. Aucuparia* as the stock.

A. O.

### *Berberis candidula.*

This is one of the most distinct of the newer Chinese Barberries and quite unlike any of the popular favourites in our gardens. It is a dense

Maurice de Vilmorin as *B. Wallichiana*, var. *pallida*, and it has also been called var. *hypoleuca*, but is sufficiently distinct to warrant specific rank.

A. O.

### Rose Mrs. W. H. Cutbush.

This is one of the most useful and attractive of the Dwarf Polyantha Roses. The semi-double rosy-pink blossoms are freely produced in large clusters from June to early winter. Even now, in mid-October, a bed in the Broad Walk at Kew, containing upward of a hundred plants, is a wealth of flowers, suggesting the month of July. Though generally grown as

dwarf, bushy plants for beds and the front of borders, this "Baby Rambler" makes a beautiful standard. As cut flowers for vases their beauty and lasting qualities are as yet by no means fully appreciated. Mrs. W. H. Cutbush was introduced by Messrs. Cutbush, of Highgate, near London, in 1907. To complete a set of five companion plants, select Jessie, dark rosy red; Katherine Zeirnet, white; Orleans, light rosy red, white centre; Baby Tausendschön, pink.

The Dwarf Polyantha Roses propagate readily by cuttings and grow freely on their own roots. They require very little pruning, the removal of the older wood to the base, and keeping the centre of the plants from becoming crowded is usually sufficient. A. O.

### *Cratægus orientalis.*

This is one of the smaller thorns and a very distinct and beautiful tree for a lawn specimen. Grown as a standard it forms a flattish, round-headed tree up to 18 feet or more in height. The leaves are not large, deeply lobed, downy on both surfaces, and greyish beneath. The tree in most years during early June is covered with corymbs of white blossoms, followed in autumn by a heavy crop of comparatively large orange-red fruits. The variety sanguinea, as the name suggests, has dark red fruits.

A. O.

### Appointment.

MISS R. M. POLLOCK.

MISS POLLOCK, who was for thirteen years Secretary to Sir Frederick Moore at the Royal Botanic Gardens, Glasnevin, has been recently transferred to the Plant Breeding Division of the Department of Agriculture and Technical Instruction. In her new post she will act as assistant to Captain Hunter, who has been released by the Military Authorities to continue the important work of raising and testing new strains of agricultural plants suitable for Ireland. Miss Pollock's long experience in the garden and office at the Botanic Gardens should prove invaluable in the important research work which this division will have to conduct for many years to come.

Keenly interested in horticulture, Miss Pollock has been a frequent contributor to this Journal, and we earnestly hope that we may still retain her services in this connection. Miss Pollock will be part of her time in Dublin and part at the Department's Station, Middleton, Co. Cork. Readers who have been familiar with our friend's writings since IRISH GARDENING was first published will congratulate her on the recognition of her work by the Department.

### Climbing Beans.

#### Their High Food Value.

THE Royal Horticultural Society wishes to draw attention to the extensive trial of climbing Beans of all kinds carried out in their Gardens at Wisley, Ripley, Surrey. The high food value of these plants makes them most valuable to grow in the garden, and the Council feels that they are cultivated far too little. All types were well represented in the collections growing there (139 stocks), and comparisons could readily be made of their habit of growth and cropping qualities. The use of the pods in the green state is, of course, well known to all, but comparatively few realize the value of many varieties, such as the wax pods, for cooking whole, the usefulness and high food value of the half-ripe seeds, and the possibility of growing haricot beans for storing dry and use in winter. Any variety may in fact be used, but differences in yield, colour and flavour make some more desirable than others.

[We would be glad to hear from any who have grown Haricots in Ireland during the past summer.—Ed. I. G.]

### Allotment Observations.

By J. HURLEY, Superintendent Corporation of Dublin Land Cultivation Committee.

IN view of the great work done by the allotment workers in the City of Dublin last year, and the increasing demand for plots at the present time, it is of the utmost importance that sufficient land be acquired to provide for the wants of all applicants. Up to October 1st about 1,000 applications have been received, and it is estimated that at least 1,000 more will be forthcoming by early November. Several pieces of untilled land are still to be seen within the city boundary, which is certainly unfair to the would-be plotter. At the present time Cabbages are retailed at 6d. per head. Such fabulous prices can surely be averted; therefore the responsible authority should at once secure this untilled land. Undoubtedly the citizen is at the mercy of the dairyman for his milk supply, as no means have yet been devised by which he can supply this want for his family, but certainly every man who is prepared to provide sufficient vegetables for his household wants should get an opportunity of doing so.

Is it possible that applicants will be told this year, as they were last, that the untilled lands within the city boundary are needed as golf links, tennis courts and cattle stands? If this be the case, food production—the aim of all people interested in the welfare of this country—must suffer while profiteering goes merrily on.

This allotment movement has come to stay, and to all who partake of the work it is good, physically and morally.

There are two ways by which land may be acquired for allotments:—(a) By the voluntary agreement of the landowner with the local authority; (b) by compulsory powers given to local authorities. The former is much the more satisfactory, but in many cases the latter has had to be resorted to.

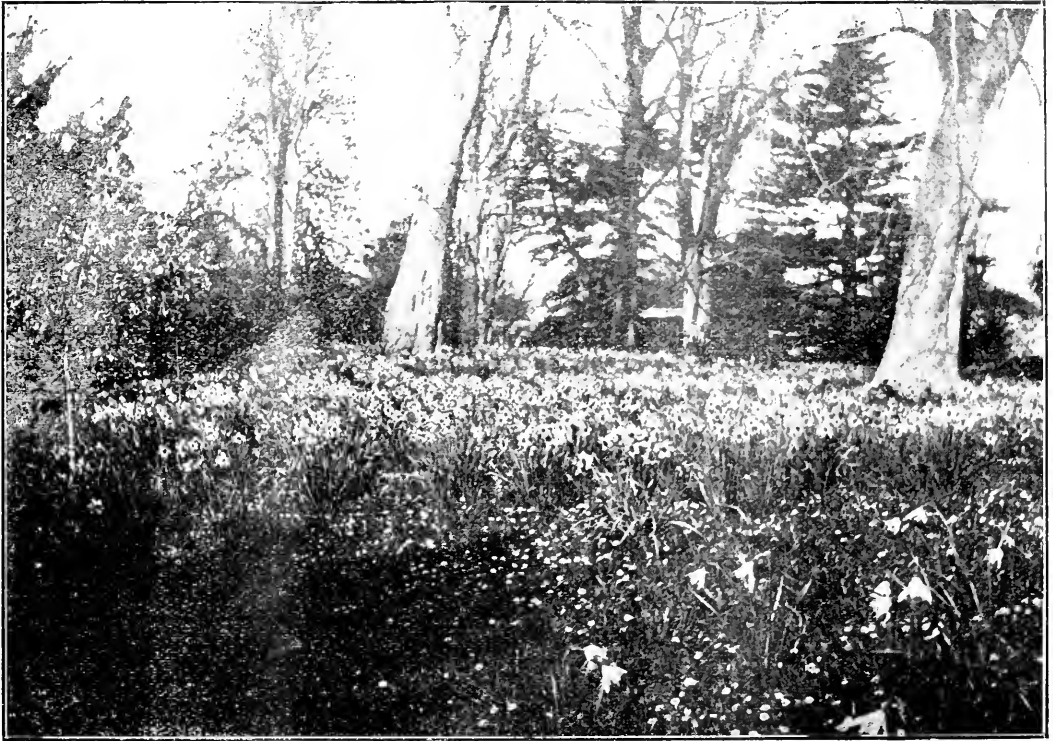
## The Immune Potato Trials.

### Notes on the New Seedlings.

UNLESS the wart disease of potatoes (*Synchytrium endobioticum*) can be checked, and that speedily, it bids fair within a very few years to become the most serious of the problems with which the Potato-grower in this country has to deal. The Food Production Department of the Board of Agriculture have taken various steps to check the spread of Wart Disease: among them the prohibition of the planting of non-

of Ormskirk on the resistance of a variety is authoritative.

This year the scale of the trials has been enlarged. Not only has the total number of test plots risen to over 300, but a number of interesting points have been demonstrated. For example, a crop of an immune variety may be found which to the untrained eye looks uniform in type when growing in the field and which produces tubers of superficial similarity. These crops frequently contain "rogues" which are susceptible to wart disease, and therefore render such "seed" quite unfit for planting in infected land.



DAFFODILS NATURALISED AT STRAFFAN, CO. KILDARE.

immune varieties in various areas, an investigation of the cause and possible cure of the disease, and the trial of new seedlings believed to be immune from the disease.

The inspection of the trials of Potatoes which are being tested at Ormskirk this year for immunity from wart disease took place during the week commencing 30th July. For several years these trials have been conducted on a small though steadily increasing scale. Obviously, it is a matter of vital importance to the Potato-grower to have a recognised centre where new varieties or fresh selections may be tested for immunity under rigorous conditions. The Food Production Department issue annually for the guidance of Potato-growers in areas infected with Wart Disease, a list of the Potatoes that have successfully passed this test, and the verdict

The trials this year are arranged so as to illustrate points of this kind, and to demonstrate the importance not only of producing a pure stock, but of keeping it pure by carefully removing the "rogues" each year. For instance, in one plot we find a carefully selected stock of a variety, and in the next plot are the "rogues" which were picked out by expert examination of the "seed" previous to planting.

Each year new seedlings are sent for trial, and the result is that the annual visit to Ormskirk has become a recognised and a pleasant addition to the duties of all the most experienced growers in Great Britain. The trials also appeal to the merchant, the farmer, and the allotment holder: and a day was set apart for the visit of representatives of each of these classes.

The production of a really good first early

immune variety is a pressing need of the moment : and there is promise that successful efforts are being made to meet this need. The immunity of *Hitch Hill* will probably be settled by this year's test, and *Arrau Rose* (M'Kelvie), which proved immune as seedling No. 30 in the 1917 trials, is an interesting addition to the list. The future of *Dargill Early* was also the subject of lively discussion. *Arrau Comrade* (M'Kelvie), second early, aroused considerable interest, and seems likely to fill a useful place in its class.

It is proposed that the National Institute of Agricultural Botany, now being founded under the auspices of the Board of Agriculture, shall in future manage the Ormskirk trials, extend their scope and importance, and provide on the spot suitable buildings where the necessary research work may be carried out. The Board, the School of Agriculture of Cambridge University, and various Seed Trade Associations will be represented on the Council of the Institute, which is receiving enthusiastic and generous support from the trades concerned.—*Journal of the Board of Agriculture*, September, 1918.

## Trial of Runner Beans at Wisley, 1918.

THE following awards have been made by the Council of the Royal Horticultural Society to Runner Beans after trial at Wisley :—*First Class Certificate*—No. 28, Prizewinner, sent by Messrs. Dickson & Robinson. *Award of Merit*—No. 14, A1 : sent by Messrs. Sutton. No. 24, Scarlet : sent by Messrs. Sutton. \*No. 35, Scarlet Emperor : sent by Messrs. Carter. *Highly Commended*—No. 33, Best of All : sent by Messrs. Dickson & Robinson. No. 8, Champion Runner : sent by Messrs. Dobbie. \*No. 4, Champion Scarlet : sent by Messrs. Barr. No. 39, Giant Exhibition : sent by Messrs. Dickson & Robinson. \*Nos. 1 and 2, Hollington Dwarf : sent by Messrs. Barr and Messrs. Cooper Taber. No. 42, Improved Painted Lady : sent by Messrs. Sutton. No. 43, Mikado : sent by Messrs. Barr. No. 17, Red Giant : sent by Messrs. Carter. \*No. 37, Scarlet Emperor : sent by Messrs. Sydenham. No. 49, The Czar : sent by Messrs. R. Veitch. *Commended*—No. 30, Best of All : sent by Messrs. Sutton.

## The Royal Horticultural Society of Ireland.

### AUTUMN EXHIBITION OF FRUITS AND VEGETABLES

OWING to the unfortunate delay in publication, we are in the position of being able to give a short account of the Exhibition in this number although the actual dates of the Exhibition were October 16th and 17th.

Considering the almost general failure of the Apple crop the display was something of a surprise. Even in good years before the war it would have been hard to get together a finer collection of Apples. In size and quality there was little more to be desired, and it certainly gave great encouragement to those who have consistently advocated the growing of more Apples. In the competitive Apple classes many superb

dishes were staged, both in kitchen and dessert varieties, while the small exhibit of Apples packed for market was most instructive, the best box being a model of neatness and general excellence. One cannot omit mention of the superb non-competitive exhibit of Apples and a few Pears from the famous Straffan gardens in Kildare. Some seventy-five dishes of finely finished Apples were beautifully put up, decorated with a screen of Bamboos behind and furnished throughout with coloured foliage and fruiting shrubs in variety. It was a model exhibit, of which we hope to see more in the better days that may soon be in store for all. Practically the whole of the exhibit was generously gifted to the Fleet, and it is worthy of note that the bulk of the produce staged was given gratis to our sailors. It is estimated that over a ton of Apples would be available for distribution among our brave seamen. Vegetables were also a good show, though somewhat overshadowed by the magnificent fruit. The collections of vegetables displayed some finely grown kitchen garden produce, that shown by the allotment holders being quite meritorious and a great improvement on last year, proving conclusively that with experience and practice very fine produce will come from the allotments.

Among non-competitive exhibits none was more outstanding than that from the far-famed Daisy Hill Nurseries, Newry. This comprised an extensive collection of trees and shrubs showing brilliantly coloured foliage and beautiful fruits. This exhibit was a centre of attraction, and among other plants included the following :—*Berberis Gagnepainii*, *B. aristata*, *B. subcaulata*, *B. virescens fructu sanguinea*, *B. brevipaniculata*, all beautiful in foliage and fruit ; *Pyrus arbutifolia*, *var.* Brilliant ; *Pyrus Viburnini*, with abundant white and pink fruits ; *Oxydendron arboreum*, a glowing mass ; *Photinia variabilis*, equally good ; *Contoneaster frigida*, *var. montana*, with large handsome leaves and clusters of deep crimson fruits.

*Xanthorrhiza apiifolia*, an interesting shrub of the Buttercup family, the leaves of which assume a beautiful bronzy-purple colour in autumn. *Stranvsæsia undulata* and *S. Davidii* are two fine shrubs for autumn colouring, as also is *Liquidambar formosana*. *Dianthus cercidifolia* makes a brilliant show with its scarlet leaves, and the pinnate leaves of *Sorbus discolor* are very effective. Others with beautiful foliage were *Crataegus prunifolia*, *Ostrya virginica*, *Vaccinium stamineum* and various *Amelanchiers*. *Cotoneaster bullata* was striking with its handsome clusters of brilliant red fruits, and an interesting shrub for sheltered seaside places is *Buddleia auriculata*, with panicles of deliciously scented flowers : it grows well at Warrenpoint. The *Pernettyas*, with beautiful berries of white, pink, red and crimson, were much admired. In short, this was one of the finest exhibits ever put up.

The Marquis of Headfort showed an interesting group of rare trees raised from seeds, including :—*Tsuga brunioniana*, *Pinus leiophylla*, *P. Benthiana* (*P. ponderosa*), *Cunninghamia sinensis*, *Cupressus Macnabiana*, *Libocedrus decurrens*, *C. arizonica*, *C. glabra*, *Taxodium mucronatum*, *Tsuga mertensiana*, *Cupressus torulosa*, *Juniperus Cedrus*, *Pinus monspeliensis* (?), *Acacias longifolia* and *macrobotrys*, *A. dealbata* and *Callistemon lanceolata*.

\* Specially fitted for market purposes.

Messrs. Pennick, of Delgany, put up a group of trees and shrubs, which included *Cupressus* in variety, *Piceas*, *Thuyopsis*, *Tsuga*, *Cedars*, *Pines*, *Bamboos*, *Myrtus*, *Lamia*, *Barberries*, *Retinosporas*, *Pittosporum*, *Cotoneasters*, *Heaths*, *Veronicas*, &c.

Messrs. Hammond, of Shillelagh, showed a group of young trees suitable for forest planting, including *Pines*, *Piceas*, *Abies*, *Poplars*, *Alders*, *Beech*, &c., all well rooted, sturdy plants, millions of which are so much wanted in Ireland to-day.

In the Forestry Section, Viscount Powerscourt showed planks cut from trees grown on his own estate, including Oak, Corsican Pine, Douglas Fir, Atlas Cedar, Spanish Chestnut, Lawson Cypress, Sequoia, Lime, Sycamore, Wych Elm, and others.

Viscount de Vesci showed tools and tool handles made from home grown timber, while a like exhibit came from the Manor Sawmills, Birr, together with samples of many different timbers.

Dwarf Conifers, suitable for Rockwork were shown by Murray Hornibrook, R.M., so well known to gardening people in Ireland as an enthusiastic grower of Alpines, but also much interested in Conifers.

An exhibit of dessert and cooking Apples grown within two miles of the G.P.O. demonstrated what can be done by good cultivation, pruning, spraying, &c.

Mention must be made of the excellent table of fruit shown by R. Tedcastle, Esq., of Marlay, Rathfarnham. This was a notable exhibit, and won the silver salver presented by the Officers and Men of the Fleet. Magnificent Grapes, Apples, Pears, &c., were finely staged and nicely furnished with flowers and foliage, the whole well meriting the honour it received. The second prize went to the Marquis of Headfort, who had heavy dishes of fine fruit, not, however, so well finished and lacking quality.

## The Arboretum.

**AUTUMN CUTTINGS.**—Probably October is a better month than November for putting in ripened cuttings of hardy trees and shrubs, but many will succeed if taken now. It is not always convenient to devote time in private gardens in July and August to the propagation of shrubs by means of the half-ripe wood then available, though it is probably the best time of the year for this work.

If no cold frame is available the next best plan is to form a bed in the most sheltered place that can be spared. The site should be well drained, the soil deeply dug and broken up as finely as possible, adding plenty of sand if it is at all inclined to be stiff and heavy. The cuttings should be put in in lines about a foot apart, the best way being to cut out a trench with a spade deep enough to accommodate the cuttings which are to be put in. At the bottom of the trench or notch made by the spade place about an inch of sharp sand on which the end of the cutting should rest. Insert the cuttings 6 inches to a foot apart, according to the size they are ultimately expected to grow before transplanting—that is, according to the kind of plant being propagated.

Rambler Roses, especially the *Wichurianas* are as a rule successfully propagated from outdoor cuttings. Side shoots 9 inches to a foot long cut off close to the parent stem and cut down to a bud at the opposite end make suitable cuttings.

Lay them against the back of the trench or notch, the base resting on the sand, then fill in the soil and tread it firm. Hybrid Perpetual and Hybrid Tea Roses may be treated similarly, and though every cutting may not strike, yet sufficient should to provide plants for filling up in the Rose beds. Some varieties do not flourish on their own roots, but valuable experience will be gained in finding out those that do. Other shrubs which may be tried with every hope of success are *Philadelphuses*, *Diervillas* (*Weigelas*), *Tamarisks*, the stronger *Honeysuckles*, *Dentzias*, *Ribes*, and *Privet*.

**ROOT CUTTINGS.**—A fair number of shrubs may be propagated by this method, and when successful good plants are thus produced. The roots should be removed during the dormant season, cut into lengths of from 2 to 3 inches, inserting them then in pots or boxes of sandy soil. They may be placed in a cool greenhouse or cold frame away from frost during winter. They will "callus" in due course, and with increasing sun-heat in spring will generally grow away freely. Growth may be hastened by bringing the pots or boxes into a warm house early in the year. A few shrubs which may be increased in this way are *Robinias*, *Casalpinias*, *Sumachs*, the cut-leaved *Bramble*, *Xanthoceras sorbifolia*, &c.

**CUTTINGS IN POTS.**—A few shrubs not suitable for propagating in the open may be successfully dealt with in pots. The soil, as for all cuttings, should be light and sandy and the pots well drained. Pots of 5 or 6 inches in diameter are convenient. When the cuttings are inserted the pots may be placed in a cold frame and protected from severe frost, or they may be stood on a shelf in a cool greenhouse from which hard frost can be excluded. Most of the hardy vines can be increased in this way: well ripened pieces of the current season's growth cut into lengths each consisting of two or three eyes, make suitable cuttings, while the two beautiful climbers, *Polygonum Auberti* (white) and *P. baldschuanicum* (pink) can also be propagated in the same way.

ARBOR.

## Reported Missing.

LIEUTENANT NORMAN SMITH.

READERS of IRISH GARDENING will recollect that in our July number we reported Lance-Corporal Cecil Smith as missing since the 15th of April. We regret that Mr. G. N. Smith, of the Daisy Hill Nurseries, has suffered a second blow, having had intimation that Lieut. Norman Smith, R.A.F., is also missing since the 27th of October. All who know Mr. G. N. Smith and his father, Mr. T. Smith, the veteran proprietor of Daisy Hill Nurseries, will sympathise with them and Mrs. G. N. Smith in their great anxiety.

## An Army Honour.

SECOND-LIEUTENANT, WILLIAM HENRY BARKER, M.C.

THE above officer is the son of Mr. Alfred Barker, gardener and steward to Lady Fitzgerald, Carrigordan, Co. Clare. In a recent list of Army honours we note this gallant young officer was awarded the Military Cross for *conspicuous bravery on the field*, together with the Divisional Card of Honour. Mr. Alfred Barker has been a frequent contributor to this Journal, and we feel certain every reader will rejoice with him in the signal honour won by his son.





## Southern and Western Counties.

By WM. CAMPBELL, Gardener to Lord Castletown,  
Doneraile Court, Co. Cork.

### THE VEGETABLE GARDEN.

**SEPTEMBER** up to the date of writing (the 18th) has turned out to be a very wet month, and great difficulty is being experienced in drying off the Onion crop and gathering in the Apple crop. Those who have an open dry shed should remove their Onions there at once and keep them regularly turned. They should on no account be stored away into their winter quarters until thoroughly dry. All the Brassica family are doing well, and promise plenty of winter greens.

**CABBAGE.**—Plant out more of the August-sown plants : keep the ground well stirred with the hoe between those already planted ; at the same time make good any failures that may have occurred.

**BETROOT.**—This is a root very easily damaged by frost, and should now be lifted and stored under a shed, or they can be built up by a sheltered wall and layers of dry earth or sand placed between them. Care must be taken when lifting the roots not to break or injure them in any way.

**CELERY.**—On fine dry days earth up late Celery, first dusting the plants with lime or soot, to ward off slugs, which often destroy whole rows of good Celery by eating holes all through the plant, especially the young and tender hearts.

**LETTUCE AND ENDIVE.**—Lift the plants carefully with a good ball of earth attached to the roots and plant closely in frames. Abundance of air must be given as long as the weather is favourable.

**RHUBARB.**—If Rhubarb is required for Christmas, it is now time to prepare the stools for forcing. Lift the required number and leave them on the ground exposed for a week or so before putting them in some warm place to force. Rhubarb, like Seakale, must be kept quite dark while forcing.

**SEAKALE.**—Clean away all dead foliage and weeds of the beds. A few good crowns can be lifted for forcing. Treat in the same way as directed for Rhubarb.

**TOMATOES.** If any fruits still remain on Tomatoes planted out door, take them off and bring them indoor to ripen : they will be very useful for cooking purposes.

**GENERAL WORK.**—Hoe between growing crops to keep the surface open and promote free growth. Clear away all old pea straw and other rubbish and burn them to give the garden a tidy appearance. Trenching and digging can now commence. Leave the surface rough, so that it may get the full benefit of the weather, look over seed Potatoes, and stand early varieties on their ends in crates or boxes.

### THE FRUIT GARDEN.

Special care should be taken this year in picking and storing Apples and Pears, so that none may be lost. The shortage of both Apples and Pears is becoming more evident every day by the high prices obtained for them. By the time this appears in print all except late varieties will have been gathered into the fruit room. They should be frequently looked over, and any damaged or decaying fruit removed.

**STRAWBERRIES.**—Keep all runners cut off : hoe between the rows to keep down weeds, and see that none of the young plants get loose in the ground.

**PLANTING AND ROOT-PRUNING.**—These important operations can now commence. Root-pruning has a very beneficial affect on trees that are making too much growth, and, consequently, little or no fruit. The operation is a simple one. Dig a trench around the tree 3 feet from the stem, cut all the strong roots, making a clean cut : gradually work inwards towards the tree, removing the soil from between the roots with a fork : carefully preserve all fibre roots. When all the large or fleshy roots have been severed start to fill in the trench, carefully spreading out the roots as the work proceeds, giving them an upward tendency. If a few barrow-loads of fresh loam is at hand to mix with the soil taken out of the trench, it will help to encourage the formation of new roots. If it is intended planting new Apple or Pear trees where old ones have been stubbed out, it will be best to remove most of the old soil and have a few loads of loam from an old pasture to plant the trees in : no manure will be necessary, especially where fresh loam is used. In the case of stone fruit plenty of old lime rubble should be mixed with the soil. Always see that the hole to plant a tree or bush in is larger than the roots when spread out to



their fullest extent. Avoid deep planting. Cuttings of Gooseberries and Currants that were put in last autumn and winter should now be transplanted, giving them more room. They should make nice useful stuff for planting next autumn.

#### THE FLOWER GARDEN.

A start must be made early this month to get all half-hardy bedding plants under glass. All air possible should be given for the present, except there is frost, when the ventilator should be closed at night. To prevent damping pick all dead foliage off Geraniums, and see that the soil does not get too wet.

WALLFLOWERS, MYOSOTIS, and other autumn bedding plants can be got out this month. As soon as the summer bedding begins to look unsightly pull it up, dig a barrowful or two of short rotten manure into each bed, level over and plant with a good ball of earth attached to the roots.

DRYING OFF BEGONIA BULBS.—It is important that Begonia bulbs should be carefully dried and ripened before storing for the winter. Carefully lift the tubers with a fork, knock off some of the soil with the hand, wring off the tops of the growths with the flower stems, and dry off on the floor of a vinery or in a dry frame: the tops will part from the bulbs of their own accord when properly ripened. Continue to plant Narcissus and Tulip bulbs: lift Gladioli bulbs and tie them in bunches: hang them up in an open shed to dry.

### Midland and Northern Counties.

By EDWARD RUTHERFORD, Gardener to Lord Farnham, Farnham House, Cavan.

#### THE KITCHEN GARDEN.

CELERY.—Continue to earth up the main crop of Celery whenever the foliage is dry. Remove all side growths previous to giving the plants a good soaking of water. In earthing up hold the foliage together carefully with some soft material until the soil is worked round the plants with the hand, breaking it as finely as possible. Take care no soil falls between the leaves in the centre of the plants.

LATE POTATOES.—Let there be no delay in lifting this crop. If the tubers are allowed to remain on the ground for a few hours after they are dug the skins will become hardened and the danger from heating reduced. If sheds are available they may be placed under cover until they can be sorted: if unable to store in sheds, place in heaps in the garden and cover with straw previous to protecting them with a layer of soil 8 inches deep.

CARROTS.—Roots which have grown to their full size should be lifted and stored. Store them in a cool, dry shed in dry sand. Carrots raised from seed sown in July are still growing freely, and may be left in the ground while the weather is favourable.

FRENCH BEANS in pits should be given frequent waterings of liquid manure and abundance of air both night and day while the weather is mild. Pick the pods as soon as they are large enough, whether they are required for immediate use or not, or the plants will become exhausted before their season is over.

RHUBARB AND SEAKALE.—As soon as the foliage has died down Rhubarb intended for forcing should be lifted and 1-ft exposed to the weather until required. Roots which have been planted for five or six years are large enough. The roots may be forced in a Mushroom house, or under the stages in the greenhouse, but light must be excluded. Place the roots close together and fill the space with soil. If the roots are dry give a watering before placing the soil around the roots. Seakale should not be forced before the crowns are ripe. It is one of the easiest vegetables to produce in winter, provided good roots are to be had. Where a small supply only is required they can be forced in pots or deep boxes: they can be placed thickly in the boxes or pots filled with soil, and afterwards watered, so that very little water will be required until growth commences. To thoroughly blanch the growth other pots of the same size should be placed on the top and all light excluded. The pots can be placed in heat as required. Where large supplies are required make a gentle hot bed in a deep frame, which should be covered with mats or litter to keep dark.

BEETROOT.—The earliest plants should be lifted as soon as possible, or the roots may become too large for serviceable use. Store them in a cool shed, or they may be placed behind a wall with a north aspect, placing a sufficient amount of covering to protect them from frost. The latest roots should be lifted and stored before frost sets in. A cool dry shed, and sand placed among the roots is best to keep them in a plump condition.

LATE CAULIFLOWER AND AUTUMN BROCCOLI.—Examine the plants frequently, and cut any that are sufficiently developed. Those approaching maturity should be protected by bending some of the leaves over them. This will prevent injury from frost and rain. If the plants mature faster than they can be used, lift them with the roots and hang them in a cool shed.

MUSTARD AND CRESS.—Seeds may be sown weekly in heat, if a small supply is only necessary. Mustard and Cress may be grown in boxes, but the seed should be placed in a heated pit or house.

TURNIPS should be lifted as soon as the roots are of sufficient size for use, and placed in a cool position where the rain will not reach them. Do not place in too large quantities or they may heat and start into growth. Late sown Turnips may be left in the ground for some time.

SPRING CABBAGE.—The second plantation of Cabbage should be made as early in the month as possible in order that the plants may become established before cold weather sets in. Let rich ground be chosen for this crop, but no fresh manure should be applied, as it makes the plants tender and unable to withstand a severe winter.

If the ground has been dug recently it should be made firm before the plants are put in. Plant in rows 18 inches apart and 15 inches between the plants in the row. If slugs are troublesome the ground may receive a good dressing of lime or soot.

LETTUCE sown early in September should be ready for planting in some sheltered situation to remain during the winter. Well prepared ground on a south border should be chosen for them, and a distance of 12 inches each way should be allowed the plants. If any cold frames are available they should be filled with Lettuces from the open border. They should be taken up with a good ball of soil attached to the roots and well watered after planting. Lettuces treated in this manner will be less likely to suffer from damping than if left in the open until they are fully developed.

#### THE FLOWER GARDEN.

BEGONIA.—Lift the tubers of Begonias before frost damages them. Spread them out in a frame to dry and allow the stems to drop off naturally. When dry, clear the tubers of soil and roots and place them in a dry frost-proof shed, mixing some dry sand among them.

PITS AND FRAMES.—Admit air to cuttings in frames as soon as they are rooted: if not attended to they grow weak and are liable to damp off. Where Geranium cuttings are scarce lift the best of the old plants from the beds, place them in boxes or pots and shorten the shoots. These old plants will be valuable for stock purposes.

REMARKS.—Attention must be given to the cuttings of bedding and other plants. Geranium cuttings which were placed in boxes out of doors must now be removed indoors, preferably to frames which are heated: the boxes should be kept as near the glass as possible. Give abundance of air and allow slight heat in the pipes. Cuttings that were struck in heat must be removed, as the roots are formed, to cooler quarters.

Get in a stock of mats for protecting frames, or obtain plenty of bracken, and place in a shed for use as a protecting material. The pleasure grounds require to be kept free from leaves and all walks and drives.

#### THE HARDY FRUIT GARDEN.

PLANTING.—Preparations for the planting of fruit trees should be commenced. Damp heavy soils may be improved by draining. Choose a time for planting when the ground is dry, as it can be worked freely, and the fibrous roots are not so much injured during lifting and transplanting as when the ground is wet. Make the holes sufficiently wide to allow the roots to be

spread out, avoid placing the roots too deeply. Scatter some of the fine soil among the roots, and tread with the feet. In exposed situations newly-planted trees should be secured to stakes to prevent them being shaken about, until the roots have taken a firm hold of the ground.

GATHERING FRUIT.—Late varieties of Apples and Pears should not be gathered until the stalks part readily from the trees. These fruits are scarce this season in most parts. Here at Farnham Bramley's Seedling are a heavy crop; some of the trees are almost laden to the ground and require supports. Select sound fruits only for storing, any that are bruised, small or deformed should be used first. As each variety is placed in the fruit room, see that it is correctly labelled. Pears in the fruit room should be examined every few days; remove any showing decay. Allow stewing Pears to remain on the trees as long as possible.

### The Song of Picardy.

By PATRICK MAGILL (Author of "Songs of A Dead End," "Children of The Dead End," "The Rat Pit," etc.).

Oh! barren hearth of Picardy,  
And trampled harvest field,  
Say, who will light your fire at night  
Or mill your Autumn yield—  
No more the reaper plies his trade,  
The hours of peace are o'er,  
And gone the matron and the maid,  
And they return no more.

The roads are rough in Picardy,  
The level fields are bare  
And broken down the orchard's trees,  
And ruin hovers there—  
Afar the guns of battle swell  
In clamour deep and grim,  
Where now no more the vesper bell  
Peals out the evening hymn.

The poppies blow in Picardy,  
The skylark sings o'erhead,  
And flower and bird their vigil keep,  
Above the nameless dead:  
But though above the dark sky lowers,  
Beneath its gloom is set  
The little seeds of Freedom's flowers,  
To rim the parapet.

And hearts are strong in Picardy  
Where Hope is still aflame,  
Where Freedom's heroes see ahead  
The goal at which they aim:  
Though drear and cold the ruined hearth,  
And barren fields are dumb  
A voice breathes soft across the earth  
Of peace that is to come.

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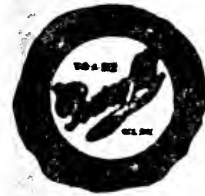
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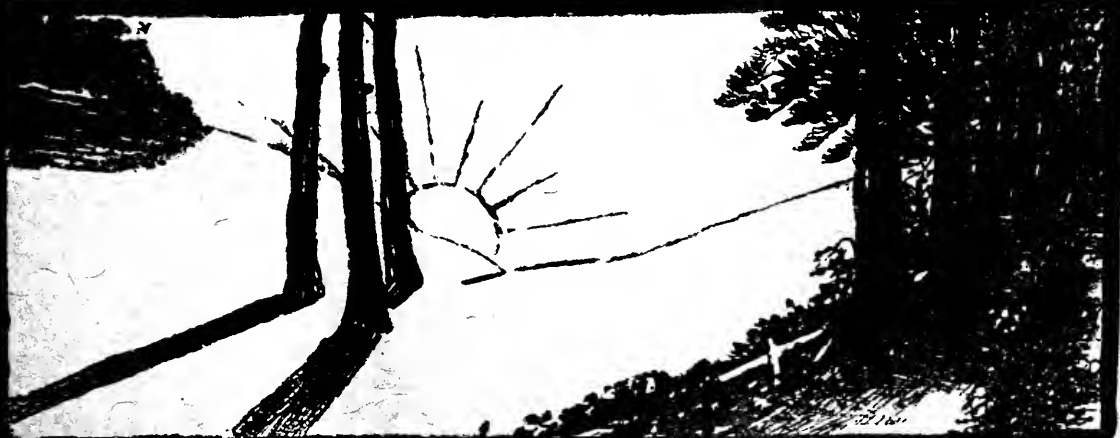
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# Irish Gardening

## Contents

	PAGE
The Fastigate Scots Pine (Illustrated) . . . . .	161
Pruning Flowering Shrubs . . . . .	162
Spraying and Spray Fluids (Illustrated) . . . . .	164
Flowers of October . . . . .	166
Notes—	
Hybrid Laburnum; Lavatera Olbia . . . . .	168
Phlox drummondii . . . . .	169
Wall Pellitory—Parietaria officinalis . . . . .	169
Euonymus europæus . . . . .	169
Experimental Planting in France . . . . .	170

	PAGE
Allotment Observations . . . . .	171
Agricultural Experiment Stations of Canada . . . . .	171
“Brown Rot” of Apples . . . . .	172
Notes on Allotments . . . . .	173
The Month's Work—	
Southern and Western Counties . . . . .	174
Midland and Northern Counties . . . . .	175
The Utilisation of Cider Fruit in Food Production. . . . .	176



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# IRISH GARDENING

A MONTHLY JOURNAL DEVOTED TO THE  
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ARBORICULTURE IN IRELAND

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1918

EDITOR J. W. BESANT

## The Fastigate Scots Pine

By PROFESSOR HENRY, M.A., Royal College of Science, Ireland.

As is well known, sports of various kinds occur in plants. A sport is not the ordinary wild form of the species met with in countless individuals over a definite area. A sport is a solitary phenomenon, arising either as a stray seedling from a single seed, or developing out of a bud on the tree as a single branch with some peculiarity of leaf or twig. In sowing a large number of seeds, we are apt to get a single seedling peculiar in colour, habit, &c. The fastigate sport may occur in any species. In it all the branches of the tree grow vertically upwards, as is indicated by the name, derived from the Latin *fastigium*, a projecting point.

The commonest fastigate tree is the Lombardy Poplar, which apparently originated about 1700 as a solitary tree on the banks of the Po. Its history is not clearly known, but it is not represented in any Italian picture or referred to before 1750. The fastigate Oak is less common, but there is a good specimen at Melbury, about 40 feet high. The upright Beech is very rare, the only specimen known being the one which grows at Dawyck, in Scotland. The upright Thorn, a good example of which grows at Glasnevin, is also rare. Amidst the Junipers and Cypressess, the fastigate form is so common that it can no longer be looked upon as a freak, a considerable percentage of all their seedlings being of this habit. The common Juniper in Norway is often of this characteristic habit, and the Mediterranean Cypress has been known in its peculiar narrow form for centuries. Here again the difficulty of definition in Nature is shown, the fastigate habit in Oak, Poplar, &c., is a freak or sport; in the Cypress and Juniper it is a normal form.

The fastigate Scots Pine at Glasnevin, of which an illustration is given, was obtained from Richard Smith & Co., Worcester, in 1901, and is now 15 feet in height. This form was first described in 1867 by Carriere as *Pinus sylvestris*, var. *fastigiata*. Its history is somewhat obscure; but there is little doubt that all

the trees of this kind in Britain and Ireland were derived as grafts from an old tree at Dryburgh Abbey. Messrs. Little and Ballantyne, who have a fastigate Scots Pine in their nursery, about 15 feet high, state that it was raised about 30 years ago from a graft of the Dryburgh Abbey tree.

Sir David Erskine, in the "Annals and Antiquities of Dryburgh," page 74, published in 1828, describes:—"A Cypress Fir near the Red Cross Well on the way to Bernersyde, 6 feet 6 inches (girth is here meant). It is exceedingly curious, being a Scots Fir and growing like a Cypress." Mr. W. Balfour Gourlay wrote to me in 1913, that the original tree at Dryburgh Abbey stands now in a thick wood near the Red Cross Well, but its circumference at 4 feet above the ground is only 5 ft. 8 in. Notwithstanding the discrepancy in measurement, there is no doubt that this tree is the one described by Sir David Erskine. He probably took the girth at the level of the ground; and this fastigate form is undoubtedly very slow in growth. Mr. W. Balfour Gourlay read a note on the Dryburgh tree, and showed specimens and photographs, now reproduced, at the meeting of the Botanical Society of Edinburgh, on 8th February, 1912.

Close to Dryburgh House there is another fastigate Scots Pine, the girth of which was 2 feet 9 inches in 1912. It is supposed to be 80 or 90 years old, and to be a seedling of, but is most probably a graft taken from, the tree at the Red Cross Well. I sowed seeds from the cones of the Glasnevin fastigate Scots Pine in May, 1914, and obtained five seedlings, all of which are of the ordinary form with branches spreading horizontally. It would seem then that this sport is not hereditary; but further sowings on a more extensive scale are necessary to establish this quite definitely.

Grafts taken from the Glasnevin fastigate tree and placed on ordinary Scots Pine at Cambridge failed, while one grafted on a young

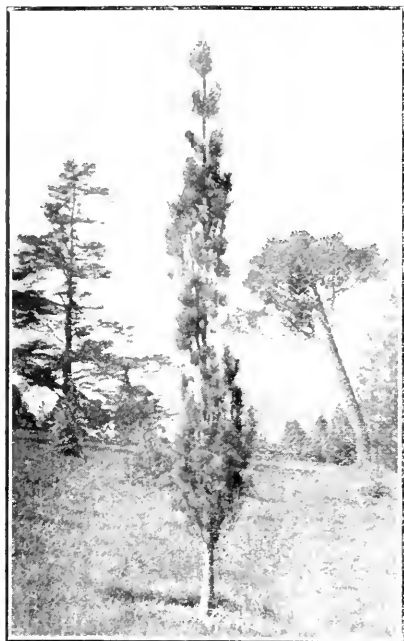


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[R. M. Pollock

#### FASTIGIATE SCOTS PINE

Royal Botanic Gardens, Glasnevin.

spruce succeeded, and can now be seen in one of the borders at Glasnevin.

The tree at Kew known as *Pinus sylvestris* var. *fastigiata*, obtained from Dixon and Turnbull in 1873, was about 15 feet high in March, 1914. It is pyramidal in shape, and is not the true fastigate form. It is probably *Pinus sylvestris*, var. *pyramidalis*.

## Pruning Flowering Shrubs.

To secure the best results and obtain the full beauty of the many attractive hardy flowering shrubs cultivated in our gardens and pleasure grounds, pruning—little or much—is necessary. One may very reasonably insist that it is as essential as the pruning of fruit trees. Though obviously such an important item in their cultivation, the pruning and thinning of the growths of hardy flowering shrubs does not receive adequate attention in many gardens.

The method and the amount of pruning desirable is very variable. A few shrubs, mostly evergreens, require no pruning, unless they outgrow their position, and perhaps crowd neighbouring shrubs. Many bushes benefit by a fair amount of pruning or thinning of the shoots annually, while a few—all deciduous flowering shrubs—are only seen in their full

beauty when hard pruned each year. The best time to prune and thin out crowded wood in the bushes extends to all four seasons of the year. By pruning is meant the cutting back or shortening of a shoot little or much. Thinning refers to the removal of the entire shoot down to the ground or back to another branch.

In a broad sense pruning may be divided somewhat readily into four groups, and is to a considerable extent governed by the season of flowering. The cultivator has also to consider, and is guided by whether the flowers are produced on the shoots of the previous season's growth or on the new shoots of the year. Though the theory of pruning can be fairly clearly explained in a broad sense, it is the skilled cultivator living among his favourite shrubs from year to year who is familiar with their diverse habits of growth and can adjust the practice of pruning or thinning accordingly, who secures the best results. This remark is not meant to convey the idea that such operations are difficult, and require years of professional practice to become skilled. The novice can soon obtain an elementary knowledge of the subject sufficient to cultivate successfully many beautiful flowering shrubs as compared with the average jobbing gardener who comes along with his shears and prunes them all a

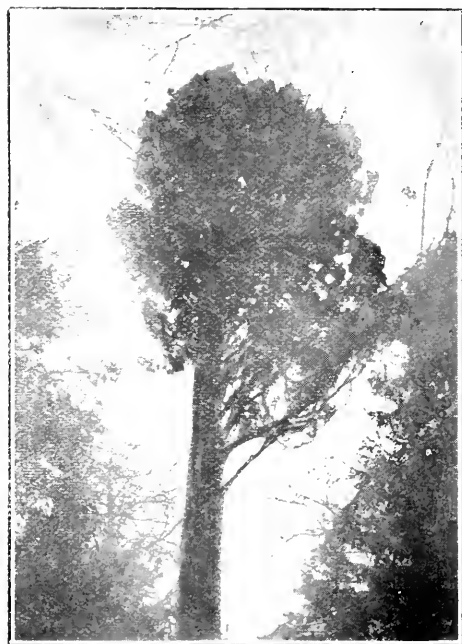


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[W. Baljour Gourlay, Esq.

#### FASTIGIATE SCOTS PINE

In Wood near Red Cross Well, Dryburgh Abbey.





Photo by]

R.M. Pollock

FASTIGIATE BIRCH (left)

FASTIGIATE POPLAR (right)

Royal Botanic Gardens, Glasnevin.

the first few years, but having attained the maximum size, the previous season's shoots may be cut back to within two or three eyes or buds of the old wood. The best known shrubs so treated are *Buddleia variabilis* varieties, the autumn flowering *Ceanothuses*, *Hypericums*, *Spirea japonica* varieties and allied species. *S. Lindleyana*, *S. Aitchisonii*, arborea, *Tecomas*, the hardy *Fuchsias*, *Tamarix pentandra*, *Amorphas*, *Indigoferas*, *Genista tinctoria*, *Spartinum junceum*, *Cytisus nigricans*, *Hydrangea paniculata*, and var. *grandiflora*, *H. arborescens* and var. *grandiflora*, *Colutea arborescens*, *Caryopteris mastacantha*, and *Elscholtzia Stauntoni*.

The third group are generally shrubs which in time become crowded with shoots. It is desirable to thin these, at the same time shortening a growth here and there if necessary to balance the bushes. In addition to improving the health of the shrubs liberal thinning of the shoots admits light and air, ripening the wood, which obviously will flower better. *Berberis*, Wild Roses, flowering Currants (*Ribes*), Lilac (*Syringa* varieties), *Symphoricarpos*, and *Rubus deliciosus*.

A fourth method of pruning is usually a rather severe business done in spring just as new growth is about to commence. It is only necessary when the bushes have become in course of time lanky or too large for their posi-

tion, a nice shapely bush appearing to be the one aim in view.

Taking first the shrubs which flower on the growths made the previous year, the pruning of these when necessary or desirable should be done as soon as the flowers fade. This only really concerns shrubs blooming before mid-summer. In some notable instances, if the shrubs are large enough, hard pruning is favoured—i.e., cutting back the growths which have borne the blossoms, to within a few buds of the old wood. *Forsythias*, *Prunus triloba* flore pleno, *P. japonica* flore albo and roseo pleno, *Philadelphus Lemoinci erectus*, *Cytisus purpureus*, are examples.

Liberal thinning of the growths, cutting the oldest out to the base, and sprays of twigs which have flowered back to where promising young shoots are developing is the treatment for *Dentzias*, most of the *Philadelphus*, *Kerria japonica* flore pleno, *Spirea arguta*, *S. prunifolia* flore pleno, *S. van Houttei*, *S. Thunbergii*, and others of the earlier flowering group. Shrubby *Honeysuckles*, and varieties of *Dier-villas*.

A considerable number of shrubs develop the greatest profusion of blossoms when pruned during February or March, flowering on the new shoots of the year.

In young plants the pruning is not so hard for

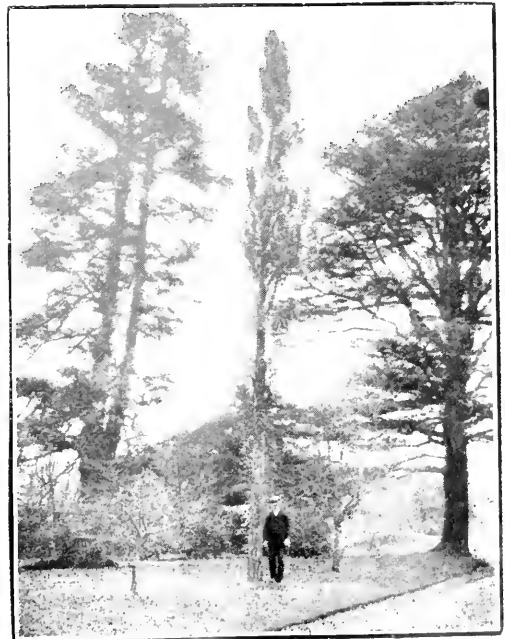


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[W. Baillie Gourlay, Esq.

FASTIGIATE SCOTS PINE AT DRYBURGH HOUSE.

tions. As a rule it means cutting the shoots back into the old wood and sacrificing one season's flowers. This, however, pays in the long run with such important and beautiful shrubs as *Rhododendrons*, including *Azaleas*, *Olearia Haastii*, *Rosa rugosa*, and other wild *Roses*, *Veronica Traversii*, and *Viburnum Tinus*. While many shrubs are improved by cutting out thin and crowded twigs annually, a number require no systematic pruning, but the appearance of the bushes may at times be improved by drawing (cutting) out a long shoot here and there. *Berberis stenophylla* is an example. The appearance of *Erica carnea* and *E. darleyensis* (hybrida) is improved when the longer shoots are trimmed off with a pair of shears after flowering. This may also be practised with good results in the case of the autumn-flowering *Heaths*, *Callunas*, *E. cinerea*, *E. tetralix* and *E. vagans*, trimming the long ends off in spring when new growths are due to commence.

A. OSBORNE.

## Spraying and Spray Fluids.

THE modern gardener has probably no more diseases and pests to combat than his predecessor of 50 years ago, but owing to the greater number of gardens, large and small, and consequently the greater number of plants grown, diseases and pests have greater facilities for spreading and becoming epidemic. No doubt, Apple and Pear Scab Canker, American Blight, Codlin Moth and many other pests existed in gardens long years ago, but not in such virulence as to alarm the gardeners of those days. However, in the writer's own time it was common practice in gardens, say 25 years ago, to prepare emulsions of paraffine and soft soap for use in combating insect pests, while gardeners of 25-30 years ago were very familiar with mixtures, such as clay and cow manure and even tar, for painting on to Vines and Peaches when afflicted with mealy bug; and outdoor wall trees of various fruits when affected with scale or American Blight were often subjected to the same treatment. It has to be admitted, however, that in the best managed gardens such pests rarely found a home; high class cultivation then, as now, being the surest safeguard against disease. In the old days, however, there was probably more time to devote to each individual plant, since the number of plants grown in gardens was small compared to the present day, when the introductions of the last twenty years or so have filled our gardens to overflowing and the

hybridist is more than equalling the seeker after new plants in distant lands.

Hence the present day need for strict attention to spraying and its adoption as a matter of routine in every garden large and small.

### THE VEGETABLE GARDEN.

Here the chief crop which calls for spraying is the Potato, and until the raisers of new varieties produce Potatoes wholly resistant to disease it will remain necessary to spray. The two specifics for ordinary Potato disease (*Phytophora infestans*) are Bordeaux mixture and Burgundy mixture, the former composed of copper sulphate and lime, with the necessary water, and the latter of copper sulphate and washing soda. It has been usual to prepare these mixtures at home, and with care a satisfactory fluid is obtained. Some aversion has been evident to the use of the readymade mixtures on the market, and probably with reason in the past. Nowadays, however, manufacturers, with the help of trained and experienced chemists, are able to offer a satisfactory article at a moderate price, and it is doubtful if it is worth while going to the trouble of purchasing the necessary ingredients separately and doing the mixing at home; this is particularly so where the quantity required is comparatively small.

During the past summer, in the writer's own garden, Potatoes were sprayed early in July with Burgundy mixture, home made, yet by the middle of August a good deal of "blight" was evident and spreading. To avoid the trouble of preparing more material at home a tin of Berger's Bordeaux mixture (Bergicide) was obtained and mixed with water according to directions. In spite of the difficulty of application at that late date, when the haulm was long and in cases lying down, the disease was distinctly checked and the crop lifted comparatively clean; in this case there was no doubt the proprietary article was equal to the home made mixture. It is perhaps needless to say that many other vegetable crops are subject to fungus diseases and insect pests and, although spraying is not so necessary, in many cases it is beneficial. Caterpillars, for instance, are a frequent source of annoyance and loss. They may be got rid of readily by spraying with *Katakilla*, obtainable from seedsmen and sundriesmen. It is non-poisonous and may be used safely. Onion Mildew has been serious in recent years and every effort should be made to combat it on account of the great importance of the Onion crop. Various excellent recommendations have been published in this Journal which, if properly carried out, would greatly reduce if not exterminate the disease. One of the best preventives is to

spray regularly with potassium sulphide, 2 ozs. to 3 gals. of water; this article can be purchased ready to dissolve. Bordeaux mixture, as used for Potatoes, is also to be recommended and, as noted above, can be bought ready to mix with water. Probably lime-sulphur solution would be even more effective owing to its adhesive qualities.

For Celery Leaf Spot the best remedy is to soak the seeds for two hours in a one per cent. solution of Formalin and in case of the disease subsequently appearing spray with dilute Bordeaux mixture.

For Carrot Fly and Onion Fly the best preventive is to constantly hoe between the rows all through the season and so expose the eggs and grubs to birds. Spraying with paraffine emulsion during the early part of the season also helps to keep away the fly.

It should never be lost sight of that deep cultivation of the soil in winter and early spring, coupled with constant surface cultivation with the hoe all summer or until the crop matures, is the best preventive of all, for, as a result of such cultivation, the plants grow vigorously and are in a great degree able to resist and overcome attacks by insects and fungi.

#### THE FRUIT GARDEN.

Here the need for spraying is imperative. Probably more than half of the Apples grown in Ireland are comparatively worthless for want of spraying in winter and spring, while the loss caused by American Gooseberry Mildew is considerable, and in any case every means should be taken to prevent its occurrence.

Hitherto caustic washes have been largely used for fruit trees in the dormant season, the object being to clear the bark of moss and lichen and to destroy eggs of insects and winter spores of fungi. Lately, however, there has been a suspicion that spraying too often with caustic wash has a burning effect on the bark not altogether favourable to the growth of the trees. Recent experiments tend to show that a more satisfactory spray fluid is that known as lime-sulphur solution. This is a combination of lime and sulphur with water and can be home made, but it is hardly worth while making it at home unless on a large scale, when 10 and 20 gallon drums of the solution can be bought ready for dilution according to directions. This is not altogether a new idea, for the older school of gardeners were quite familiar with the benefits to be derived, particularly from the use of lime-wash and the cleaning properties of sulphur were well known to them.

As a winter spray lime-sulphur solution is excellent, adhering readily to the bark, forming when dry a whitish film, which effectively seals

up insect eggs, preventing them from hatching, and likewise destroys fungus spores; moss and lichen are equally got rid of, the lime, no doubt, being the chief agent in destroying them. In early spring, when the leaves are unfolding, it is valuable in a more dilute form in preventing the occurrence of Apple and Pear Scab on the foliage and young fruits. To prevent attack by the Codlin Moth it is only necessary to add arsenate of lead to the lime-sulphur solution and spray when the flowers are opening and thus a first-rate combination wash is obtained, which destroys insects and fungi at one and the same time; this is a great gain and renders easy the work of keeping orchards and other fruit gardens clean and healthy. For American Gooseberry Mildew there is nothing better than lime-sulphur solution, having regard, of course, to the time the fruit is required for use. In fact for fungus diseases generally there is probably nothing better at present on the market.

For attacks of Aphis in season the time-honoured quassia extract still holds sway, and in many cases nicotine preparations are equally effective; in fact there is nothing to beat tobacco water for killing Aphis when it can be procured cheaply. Where tobacco waste can be obtained it is an easy matter to place a quantity in a bag and immerse it in a barrel of water subsequently diluting the fluid if necessary; a few small experiments will soon tell the strength required to be effective.

In all cases of spraying food crops, such as fruits and vegetables, the greatest care must be exercised when using poisons, such as arsenate of lead, and spraying must be discontinued some weeks before their use is contemplated. All such poisons should also be properly labelled and stored under lock and key, where none but responsible persons can reach them.

#### THE FLOWER GARDEN.

In the open less trouble is experienced with insects and fungi in this department than in the others. There are troubles, of course, with snails and slugs eating young seedlings of many kinds, tender young growths of herbaceous plants and choice alpine, dusting diligently with lime, soot or tobacco powder is useful. Roses, of course, are subject to attacks of Aphis, which may be killed by spraying with quassia or tobacco water. Mildew is best dealt with by spraying with potassium sulphide. Hollyhock Rust is often troublesome and hard to cure, but spraying with potassium sulphide acts as a check. When first planted out Dahlias are frequently the prey of earwigs. They may be trapped by placing small flower pots containing a little hay on the top of the stakes; the pots, of course, being

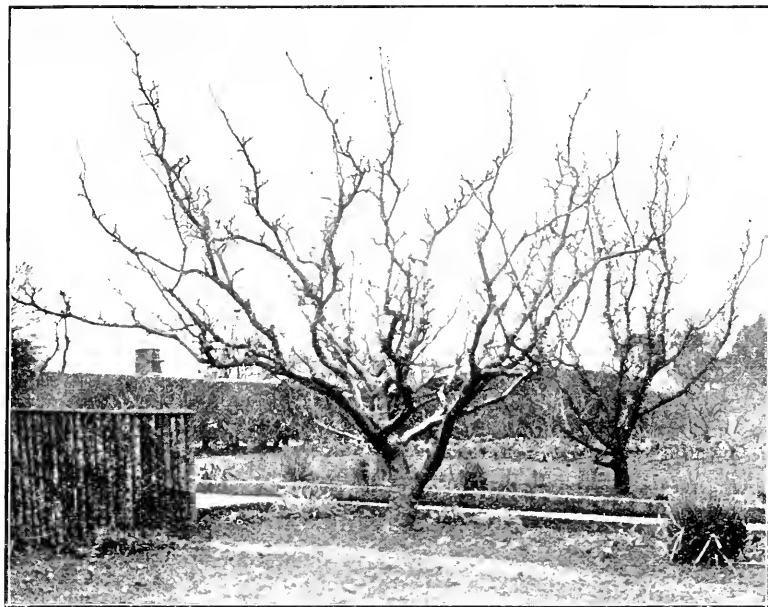
inverted and hanging on the stake; they must be examined frequently. Probably occasional sprayings with quassia or nicotine would keep away the earwigs.

Indoors spraying is constantly going on, either with an ordinary hand syringe or one of the smaller sprayers. For red spider nothing beats plenty of clean water, and for *Aphis quassia* or tobacco water. Mealy Bug is difficult to exterminate, but may be kept under by the frequent use of paraffine emulsion. Carnation Rust is

over, a barrel sprayer with a hand pump attached is necessary, and at least 20 to 30 feet of  $\frac{1}{2}$ -inch hose pipe, with the necessary nozzles.

What is wanted in gardens of considerable size is a good pump which could be attached at will to a wooden barrel hung on wheels, such as is often used for carrying water. For large orchards covering many acres more capacious apparatus is necessary and horse haulage has to be resorted to.

J. W. B.



WELL GROWN APPLE TREES  
The result of pruning and keeping clean.

checked by dusting with a mixture of lime and sulphur.

The various diseases and pests which afflict plants of all kinds need not be further discussed, but it is abundantly evident that the modern gardener must be familiar with all the known means of exterminating or reducing them, and spraying is a subject which every young gardener should study carefully.

#### SPRAYING UTENSILS.

For pot plants or small bushes, such as Roses and small fruits, where the number to be dealt with is small, nothing beats a good syringe with plenty of muscle behind it. For Potato spraying, bush fruits and bush apple trees, and such like, a knapsack sprayer is desirable, and for larger trees, and where a considerable area has to be got

#### Flowers of October.

GIVEN anything like decent weather, it is really wonderful how many flowers there are to cheer us in October; and if the year be a good one for autumn colour the garden can be quite gay. Here, however, we must observe that to get the most out of a garden it must be chiefly of perennial plants—viz., trees, shrubs, herbaceous and alpine plants. For the nonce we say nothing of the greenhouse, for though indispensable, particularly at this time of the year, it is now, in most cases, denuded of its usual occupants and put to other uses. The garden, which has to be planted annually—that is, “bedded out” perhaps twice a year—and has little else in it, is a dreary place for the next six months.

A good all round garden, however, is always

beautiful and interesting. Well selected and well placed evergreen shrubs give beauty, shelter and a well furnished appearance and often beautiful flowers in season. Deciduous flowering shrubs, also carefully selected and well placed and planted, give beauty all the year round, for

too, of *Garrya elliptica* are lengthening fast and never fail to attract visitors. In an early issue we hope to give an account of some of the more beautiful and interesting evergreen shrubs.

Of other flowers, which were conspicuous in October, one may mention *Epilobium*



A GOOD TYPE OF ORCHARD TREE. Will yield abundantly if sprayed.

many, not conspicuous for their flowers, are beautiful in winter by reason of their brightly coloured shoots, which show up when the leaves fall. Some evergreens flower in October and November, and none is more lovely than our native Strawberry tree, of which there are numerous varieties. A prettier sight it would be hard to find than *Arbutus Unedo Croomii*, with its large bells, bright red on the sunny side, contrasting well with the shining green leaves. Some of the large bushes of *Arbutus* are most interesting just now, being full of flowers and at the same time carrying a fine crop of fruits formed from last year's flowers. The catkins,

*Dodonaei*, which, placed high up on a dry part of the rockery, keeps comparatively dwarf and does not spread so rampantly as in richer soil. The flowers are pink and the leaves of a greyish hue, the bush at first glance looking like a *Rosemary* with pink flowers. The *Polygonums* are useful in many ways and over a long season: three of them flower late in the year and were conspicuous in October—viz., *P. vacciniifolium*, a trailer which loves a moist place in gritty soil and trails beautifully over a rock throwing up innumerable short spikes of pink flowers; *P. affine* really flowers for months, inasmuch as the flower spikes which grow about a foot high

retain their colour long after the flowers have faded; *P. polystachyum* is a herbaceous plant about a yard high, the stout stems bearing ample leaves surmounted by clusters of pure white flowers, produced in abundance.

*Clematis akebioides* is an interesting climber which loves to creep at will over shrubs, hedges or rough fences, and in October bears abundance of yellow flowers. The leaves are glaucous and the plant is most attractive; the correct name appears to be *C. glauca akebioides*. *Clematis Recleriana* (*C. Buchananiana*) is interesting, making prodigious annual growths, the softer part of which frequently suffers in winter, but is readily renewed the following summer. Rambling profusely over a trellis and high into an old apple tree, it forms a lovely sight in October when bearing freely its yellow nodding bells carried in erect panicles.

The Kaffir "Lily," *Schizostylis coccinea*, which really belongs to the Iris family and is not a Lily at all, is a plant which we ought to make more use of. Flowering in October and November, it is really one of the brightest and best plants of its season. The flowers, produced in spikes, are bright crimson and are carried well above the Iris-like leaves. It likes a sheltered place exposed to the sun and a fairly moist soil; in fact here it flowers on the rockery, in the bog garden and in a sunny border at the base of a wall. The plant increases rapidly, and should be divided when the growths become too thick, and consequently weak.

*Oxalis valdiviana*, alluded to in former notes, continued to flower freely through October and into November; a really fine plant for a sunny position.

The true Crocuses of autumn and early winter are lovely and a source of pure delight. Among those noticeable in October the following were attractive:—*C. hadriaticus*, var. *Saundersoni*, white with orange stigma, the outer segments flushed with brown. *C. hadriaticus chrysobelonius*, similar to if not identical with the last named. *C. sativus haussknechtii*, pure white with orange stigma; *C. Tournefortii*, a little dwarf species with lovely bright mauve flowers; and *C. medius*, a fine purple with orange stigma. *Crocus græcus*, carpeting the ground at the base of an old Larch tree, was a charming sight on a sunny morning; flowers lilac-purple.

Where *Tropæolum speciosum* does well it is a glorious plant; here it grows freely in peaty soil among old Rhododendrons, and in autumn smothers everything near it with its rampant growths; when flowering freely it is most

attractive, the crimson flowers giving a warm touch of colour. It should not, however, be planted near choice shrubs, for if it does grow it is hard to get rid of. *Tropæolum tuberosum* is less aggressive for, though the summer shoots grow fast and far, the root is tuberous and does not spread like its relative. It is an excellent plant for a wall, where it will scramble up through other shrubs and bear its orange-yellow flowers freely till frost comes.

Just at present (early November) nothing could be finer than the silvery plumes of the Pampas grass, of which there is many varieties, some silvery white, others showing a tinge of pink; some quite dwarf and others variegated. A selection planted about the garden is a notable feature.

A striking plant on the rock garden all through October was *Pentstemon spectabilis*, native of California, and which was raised from seeds sent by Messrs. Bees, Ltd., the well known Cheshire nurserymen, famous for the introduction of new and rare plants. The tubular flowers are bright blue within and reddish-purple on the outside; a very beautiful plant which one hopes may prove hardy.

Another rockery subject was gay in October—viz., *Solidago brachybotrys*—about 9 inches high, with short spikes of yellow flowers similar to *Solidago virgaurea nana*, which flowers much earlier.

Fuchsias of many sorts continued to flower bravely, and the trailing *Lysimachia Henryi* continued as gay as in September. Altogether we had much to be thankful for in October.

## Notes.

### A Hybrid Laburnum

RAISED AT GREENFIELDS, CO. TIPPERARY.

RAISED from seed in 1907 by P. Schofield. It forms a large bush, 8 or 10 feet high, blooming the same time as any other Laburnum, then puts forth new growth, and blooms again in September, and is yet a fairly good show (Oct. 20th).

[*L. alpinum* var. *Autumnalis*?—Ed.]

### Lavatera Olbia at Greenfields.

RAISED here in 1917 from seed obtained from Messrs. Barr & Sons, and planted out last spring; is now 8 feet high and 4 feet through, with shrub-like appearance, having velvety deep green leaves the shape of a large Ivy leaf. The flowers are of a delicate pink, veined with a deeper shade, and are 3 inches across.

### Phlox drummondii.

THIS annual, so seldom grown really well in gardens round Dublin, seems to thrive wonderfully well in the South of Ireland, where it grows in a luxuriant manner, and continues blooming well on into November. Not only is it bright and attractive in the garden, but it is a most satisfactory flower for house decoration, lasting literally weeks in water. Now

red-green tint owing in autumn to the red colour of the stems. Hayward in his "Botanists' Pocket-book" gives its situation as "walls"—but surely it is only in damp walls it really thrives? In the Dublin District it grows in quantity on the wall of the Dodder River, where it flows under Anglesea Bridge at Donnybrook, which is also a damp wall owing to the very sudden rise and fall of that river.

R. M. POLLOCK.



ALLINGTON PIPPIN  
Spray for results like this.

that it can be had in distinct colours—red, white, cream, pink, &c.—it should surely rank as a first-class annual and be given more room in the garden.

R. M. POLLOCK.

### Wall Pellitory—*Parietaria officinalis*.

A BRITISH plant belonging to the nettle family, and to the same family as the common Hop, is another plant which one meets with frequently in the damper districts of the South of Ireland. Not far from Cork city, where the river often overflows its banks, *Parietaria officinalis* grows thick along a low wall, giving the wall a dark

### *Euonymus europæus*.

THE Spindle tree or Pegwood is another plant which is found growing wild in the hedges, and this autumn it is carrying a wonderful crop of berries. As the flowers in the garden begin to lessen one naturally turns to any colouring shrub which will brighten one's rooms, and here Pegwood steps in. The fruits are attractive in spite of the unusual combination of colour—orange and scarlet—the leaves often turn red, making the plant quite an acquisition during the last month of the year. R. M. POLLOCK.



## Experimental Planting in France.

ABOUT fifteen years ago M. Philippe de Vilmorin established in Central France, in Charollais, at Dompierre-les-Ormes (Saône-et-Loire), a tree nursery for studying on a large scale under forest conditions, the acclimatation and utilisation of the forest and ornamental trees, cultivated in his experimental grounds at Verrières (Seine-et-Oise).

The estate, called "Pézanin," is at an altitude of 1,276 feet. Forty-four acres of hills are at present planted, all of which slope down to a lake covering 10 acres. The soil is granitic, composed of rock more or less worn away by exposure, the finer portions of which have accumulated in the lowest parts and form the vegetable soil. The soil is very permeable, very poor in lime and clay, and subject to drought in the sloping parts more exposed to the sun. As in many mountains, moist portions are found here and there, giving very vigorous growth. By reason of the altitude the climate is cold, and there is snow for a great part of the winter.

The first plantation was made in 1903, and planting was continued regularly in autumn every year up to 1915. Since the death of M. de Vilmorin the experiments have been continued by Mme. de Vilmorin and the author. Very interesting results have already been obtained. Over 50,000 young trees have been planted, distributed as follows:—

	Trees or bushes with deciduous or persistent leaves	Conifers
General ...	91	32
Species or varieties ...	789	206

A fairly large number of trees proved insufficiently hardy and incapable of thriving under the harsh soil and climatic conditions; these disappeared or only lived in a weak state. Unfortunately the war has not allowed a complete list of these trees to be made yet. The winter 1916-17 caused the loss of many trees which had resisted till then, especially of several *Araucaria imbricata*, which froze completely.

As a rule deciduous trees did much less well at Pézanin than the conifers. Nearly all the Juglandaceae succumbed; only a few *Juglans Vilmoriniana* managed to take hold in one part of the nursery. All the *Carya* died. The *Pterocarya* and *Juglans* which have survived have lost all their stem and are growing in bushes from the base. The *Catalpa*, *Paulownia*, some *Acer*, *Aesculus* and *Pavia*, *Fraxinus*, *Gleditschia*, *Tilia*, many bush *Leguminaceae*, and various *Rosaceae*, are doing fairly well, usually growing from the foot instead of forming a stem.

On the other hand, certain trees, especially common acacia, birch, hornbeam, and *Planera*, in particular, then oaks, willows, and alders, do more or less well, according to the species to which

they belong and the place in which they are planted; the depth of the soils which varies greatly in the different parts, naturally has much influence on their vigour. All oaks do well at Pézanin, but the rapidly growing American species, especially *Quercus coccinea*, *Q. palustris*, *Q. rubra*, *Q. tinctoria*, &c., grow as rapidly as the willows when their roots find a little depth or fissures in the underground rocks; their colours in autumn are very brilliant. Some *Quercus dentata* (*Q. Dainio*), grown in a fresh position, have developed exceeding well after having refused to grow for several years.

Some trees that are usually weak elsewhere, particularly at Verrières have developed surprisingly well. This is the case with: *Direa palustris*, the curious "leather wood" tree, whose branches are so supple that they can be rolled up like straps; with *Nothofagus antarctica*, which grows almost as vigorously as an elm, which it resembles by its foliage; *Halesia tetraptera*, the "silver-bell" tree which flowers and fruits in abundance; *Hamamelis virginica* was in flower in November, 1917, at planting time; various *Rhododendron* crosses, planted in numbers in a clearing, have taken root and are growing strongly; on the contrary, *Azalea arnica* could not resist the great cold, whilst *Daphne Mezereum* album is growing well, being apparently well suited to the conditions there.

In general, the conifers, which form the basis of the plantations, have done the best. Besides the forest trees common to the region, many species, having found suitable surroundings there, have grown up into fine saplings. Shoots over 3 feet high are not uncommon with the Douglas fir. *Abies balsamea* has found so good a position; fresh, and with a northern exposure, that some strong specimens planted in 1907 are now nearly 26 feet high.

*Abies arizonica argentea*, the famous "cork fir" now diffused in Europe for some 15 years, does splendidly; its thick and conical habit of growth, together with its fine glaucous tint, make it one of the finest conifers in the plantation. *Abies grandis* (Vancouver fir) competes in height with the silver fir and wins by its massive branching system which spreads curiously before it begins to thicken. *Abies concolor* and *A. lasiocarpa* are in perfectly suitable surroundings, and are noticeable for their fine stature and their distinctive blue colouring. *Abies Nordmanniana*, *A. cephalonica* and several other species do very well, even *A. Pinsapo*, a southern tree; on the contrary, however, *A. cilicica*, which begins vegetation early, freezes in spring and becomes stiff and spindle-shaped.

Several *Piceas* succeed at Pézanin. Besides *Picea excelsa*, grown as a forest tree the following may be noted:—*P. pungens* (*P. Parryana*), and its very ornamental glaucous forms; *P. Morinda*, whose young shoots are liable to freeze in winter; *P. Orientalis*, with its small, close, dark, green foliage—it is very distinctive and grows very well; *P. sitchensis* (*P. Menziesii*), much finer than in the Paris region, too hot and dry for it during summer. On the other hand, *P. ajanensis* does not do at all; *P. Aleockiana*, for which it was long mistaken, freezes in spring; and *P. Omorica*, so remarkable at Verrières, remains very poor.

The Atlas cedar and its silvery form, from which such fine colour contrasts were expected, are weakly and without any ornamental effect. The slow growing, bushy foliage of the cedar of



Lebanon seems to indicate that the soil is neither sufficiently deep nor sufficiently fertile for it, while the heat is insufficient.

The common larch (*Larix europaea*) is common in the district, and its wood is in great request for its straightness and its quality, superior to that of forest pines. Most of the other species do equally well there, including *Larix occidentalis*, as yet still rare in plantations, and whose branches seem more developed than those of the former. But *Larix leptolepis* is much better than the related species for the surprising rapidity of its development, which rivals that of the Douglas fir, and by its fine, straight, clear bole.

Here as elsewhere, the adaptability of the various species of pine seems much more unequal than that of the firs. *Pinus sylvestris* and *Pinus Laricio* are the commonest in the region, where they are of almost equal forest value, the latter giving more wood than the first, but of less value, at any rate as a young tree. *Pinus Banksiana* and *Pinus rigida* do very well, but not so well as *P. sylvestris*. They are probably preferable to the latter for dry places. *Pinus excelsa* and *P. Strobus* do equally well in Charollais, but their white soft wood, of low commercial value, hinders their wider growth. *Pinus densiflora* and *P. Thunbergii*, which, in Japan, represent our *P. sylvestris* and *P. Laricio*, are of no forestal interest for the region, for they branch and become bushy early, and their branches bend and break easily under snow. *Pinus ponderosa* and its varieties are weakly and its shoots are attacked by *Tortyx buoliana*, as is the case in many places. Most of the other pines do not grow very well.—*Journal of the Board of Agriculture*.

## Allotment Observations.

By J. HURLEY, Superintendent Corporation of Dublin Land Cultivation Committee.

The end of October saw most of the Potato crop lifted on the Dublin allotments and also an attempt at winter cultivation, such as drilling, begun. Only on very few plots are weeds allowed to grow now, and only in a few instances are holders likely to lose their plots through neglectful cultivation this year. This may be regarded as satisfactory and as something done.

The general consensus of opinion is that the Potato crop is not as prolific this year as last on any area; this is, to a large extent due to the dry weather of June and part of July.

The Onion crop far exceeded all expectations, both Tripoli and seed varieties. In many cases holders had such an abundant crop they were justified in selling what they considered were not required for their household wants and for them very high prices were obtained.

The Carrot crop was certainly disappointing, though, to exonerate the seed merchants, it must be admitted that the germinating quality of the seed was well up to the standard, still failure occurred nearly everywhere. The reason generally given is bad cultivation, leaving manure too near the surface, thick or heavy seed sowing, and careless thinning—this latter often at a wrong time during the growing season. Carrots should be grown very much more extensively than they are at present on allotments. They are an extremely fine winter vegetable and agreeable to the tastes of both young and old.

It is believed that the manure supply will be very limited this coming winter and spring. When we think of 3,000 plots, each of which is supposed to receive a dressing of three loads, it accounts for 9,000 loads; this will be required for certain if no more land is got for allotment purposes. This amount can hardly be supplied, and so plotholders would be wise in co-operating at once to obtain a supply of artificials to be used in conjunction with the supply of farmyard manure they have already obtained. A supply of 4 stone Superphosphate, 1 stone Sulphate of Ammonia, to be used at the time of planting, and 1 stone Nitrate of Soda, for top-dressing, using after thinning or applying to a crop during a dry spell of weather, is ample for a plot one-eighth of an acre when one load of farmyard manure is only obtainable.

## Agricultural Experiment Stations of Canada.

In the *Monthly Bulletin of Agricultural Intelligence and Plant Diseases* for September, 1918, there appears an account of the various experiment stations in the Dominion and of the work carried on. The following extract relating to Horticulture and Botany, will impress readers with the earnestness of our Canadian kinsmen, and, we trust, inspire us with the necessity of supporting our own Agricultural Department in the many experiments it will doubtless initiate in the immediate future with the object of developing the Homeland to the utmost extent:—  
“The Division of Horticulture carries out numerous experiments with Apples, Plums, Cherries, Grapes, small fruits and vegetables. Many varieties have in past years been tested, and promising seedlings for different latitudes have been recommended to growers. The object of the experiments with Apples has been to obtain by cross fertilisation and selection, new varieties that will stand the severe winters, also varieties of better keeping qualities. Experiments were begun in 1915 to test the possibility of growing root and vegetable seeds in Canada instead of importing them from abroad. So far as they have gone, the experiments have proved successful and are being continued. In the Division of Botany investigations of the diseases of cultivated plants are carried on, and advice is given as to remedial measures wherever possible. Weeds are identified and methods of eradication recommended. Wild plants from all parts of Canada are received for identification, and information is furnished as to whether they are edible, medicinal or poisonous. Tests are also made as to the suitability of the climate of Canada for the growth of various plants of economic importance, such as fibre plants (flax, hemp), medicinal plants (opium-poppy, anise, &c.), oil-yielding plants (castor oil, soy bean), and miscellaneous plants (mustard, chicory, &c.). Much has been accomplished in Arboriculture not only by setting apart 65 acres at the Central Experimental Farm for the testing of trees and shrubs from all parts of the world, but also by the encouragement given to tree-planting in the western provinces.”

## “Brown Rot” of Apples.

By H. WORMALD, M.Sc. (Lond.), A.R.C.Sc.,  
Mycological Department, South-Eastern Agricultural College, Wye, Kent.

*The Disease on the Tree.*—During summer and early autumn apple trees are frequently attacked by a disease which produces on the fruit brown areas which gradually increase in size until the whole apple is affected; meanwhile, small pustular swellings appear beneath the skin and soon burst through as yellowish, powdery, cushion-like outgrowths, usually in concentric circles. The diseased apples begin to shrink in size and the skin becomes wrinkled. Such fruits, when hanging loosely, are easily detached and many fall to the ground during a high wind; the rot continues to develop on these windfalls, and more pustules are produced, to act as a possible source of further infection. When, however, a diseased apple is in contact with other apples or with a branch the pustules produced at the point of contact become adherent and may so attach the apple to the tree that some little force is required to detach it.

*Method of Attack by the Parasite.*—The disease is caused by the fungus *Monilia fructigena*, Pers. (= *Sclerotinia fructigena*, Schroeter). The powdery pustules which sooner or later appear on the affected apples are outgrowths of the fungus growing in the flesh of the fruit, and each consists of numerous chains of spores or reproductive bodies. The spores readily fall apart and are easily scattered by the wind or carried by insects to other apples. When they gain access to the flesh of an apple through any cut or rupture of the skin they germinate within a few hours, producing fungal threads (mycelium) which develop within the tissues and cause the characteristic “brown rot.”

The rapidity with which the rot travels through the apples is illustrated by an experiment which was carried out in the plantation at Wye College in the summer of 1917.

On the 24th of July, while the apples were actively growing, and about 1 inch in diameter, ten of them were artificially injured by making a single puncture through the skin by means of a sterilized needle, and inserting in each puncture spores of *Monilia fructigena*, taken from a pure culture of the fungus which had been grown in the laboratory. Two days later it was seen that a brown rot had already made some progress, for round each puncture there was a discoloured area varying from one-eighth to half an inch in diameter.

At the end of six days from the beginning of the experiment about half the surface of each of the ten inoculated apples was brown, while the rest of the apples on the tree showed no trace of the rot. A few pustules had by this time appeared on each of the ten, in a zone at about half an inch from the puncture; they were of a buff yellow colour, and when fully developed were about one-tenth of an inch in diameter.

Nine days later the whole surface of each inoculated apple was brown and bore numerous

powdery pustules. Strong winds which occurred about this time caused nine of the apples to fall; the remaining one had been in contact with the branch and the pustules on that side had so attached themselves to the bark that although the stalk of the apple had become almost detached from the fruiting spur the fruit itself remained fixed to the branch by means of the pad of fungal threads.

When an infected apple is in contact with others on the tree the latter may become infected by contagion, and frequently a bunch of apples is found which shows fruit with the rot at various stages of development.

*Mummied Apples and Methods of Overwintering.*—Those diseased apples which become attached to the tree usually remain in that position throughout the winter, becoming dry and shrivelled, and they constitute the so-called “mummied” apples. Many of the spores on the pustules of these “mummies” are washed away by rain or dispersed by the wind in winter; others remain on the pustules, but these usually lose their power of germination. As summer approaches, however, the “mummies” produce a new crop of spores and these cause infection of the young fruit. A “mummy” frequently infects the growing apples directly by contact, but in any case apples in the neighbourhood of a “mummy” are liable to spore-infection through wounds, and such newly-infected fruit will soon produce myriads of spores which serve to spread the disease. The spores are minute in size (only about  $\frac{1}{2000}$  inches in length), and are easily dispersed by the wind; insects, too, crawling over the fruit may not only carry the spores from one apple to another, but biting insects, such as wasps, also produce wounds enabling the spores to reach the exposed flesh of the apple where they grow rapidly and reproduce the rot.

*Spur Canker.*—On some soft-wooded varieties of apples (e.g., Lord Derby and James Grieve) it has been observed that the disease may extend along the stalk of the affected fruit and into the fruiting spur, or even as far as the branch itself, producing in the latter a canker round the base of the spur. In this capacity of forming cankers it resembles the “Blossom Wilt and Canker Disease” of apple trees caused by a closely-related fungus (i.e., *Monilia cinerea*, Bon.), and already described in *The Journal of the Board of Agriculture*. The two diseases are, however, quite distinct. In the case of the “Blossom Wilt,” infection occurs through the open flower, while in the disease described in the present article infection takes place, so far as is known only through the fruit.

*CONTROL MEASURES.*—From the preceding remarks it will be seen that the mummied fruits which are allowed to remain on the trees throughout the winter are the source of the new infection of the growing and ripening apples, and that the one certain preventive measure against the disease is the removal of the affected fruit from the trees. In gardens, allotments and small orchards it is possible to examine the trees at frequent intervals, and any apple showing a brown rot, even in an early stage of development, should be promptly removed. On large fruit farms such a course would in most cases be

impracticable, but the diseased apples should be removed as soon as possible. This operation might be carried out at the time of picking the crop, the diseased apples being gathered and destroyed, or if that is impracticable they may be dropped to the ground, where they are less dangerous than if left hanging on the tree.

It is advisable, where at all possible, to collect the affected fruit and remove it from the orchard or burn it: in plantations, where the ground is cultivated, such fruit should be dug into the ground. In any case it is imperative that none should be allowed to remain on the trees over winter.

Any affected spurs should be removed, together with cankers on the stem. This operation is best carried out in summer, but it may be done in winter provided it is completed before the fungus resumes its growth in spring.

*The Disease on Stored Apples.*—Apples are attacked by the disease not only while still growing on the tree, but also after they are picked and stored. At the time of storing they should be carefully examined, and all those showing any trace of the rot should be discarded, for the disease will not only continue to develop in affected individuals, but may also extend to those around them. For the same reason great care should be taken when apples are selected for transmission to a distance in boxes; serious losses have occurred in boxed apples owing to neglect of these precaution.

An experiment carried out on apples after they were picked showed the rot developed in these at approximately the same rate as in the growing fruit, under conditions comparable with those under which apples are stored. Three apples (variety, Bramley's Seedling) were inoculated from pure cultures of *Monilia fructigena* and kept at the ordinary temperature of the laboratory throughout the experiment. At the end of eight days the rot had made considerable progress, as shown by a brown area about  $1\frac{3}{4}$  inches in diameter on the surface of each apple, extending round the point where the inoculation had been made. The disease continued to develop and all three produced numerous yellow pustules of the fungus, and eventually became much shrunken and wrinkled.

Under certain conditions stored apples affected by *Monilia fructigena* turn black (as observed by Worthington G. Smith as long ago as 1885), the skin remaining smooth or nearly so for some time and bearing few or no pustules. Although there is often no evidence on the exterior of such apples that a fungus is present, the flesh is permeated by the fungal threads, and particles of the flesh, placed on suitable culture media, give rise to the growth and pustules typical of *Monilia fructigena*; the black condition, too, can be induced in the sound mature fruit by infecting them through wounds with this fungus. *Monilia fructigena* has always been isolated from such black apples (both of the cooking and dessert varieties) from the store at Wye College and from other places in Kent, and it has also been obtained by Spinks from cider apples which have turned black. The precise conditions which cause the fungus to produce a brown rot in some cases and a black rot in others have not yet been determined.—*Journal of the Board of Agriculture*, June, 1918.

## Notes on Allotments.

**ALLOTMENT PROGRESS.**—The Food Production Department report that at Tarporley (Cheshire) every one of the 693 householders is cultivating either an allotment or garden this year for food production purposes. At Abergele and Pensarn 66 per cent. of the householders have food production plots. At Daventry (Northants) 572 out of 800 householders are cultivating allotments, all of which have been acquired by private agreement between the allotment holders and the landowners.

Among the larger towns that have done extremely well in the matter of allotments is Southampton, which has already provided 3,000 plots (212 acres) comprising practically all the available land conveniently situated. An effort however, will be made to provide a further 300 allotments next season.

Three acres of land have been recommended for next-season allotments at Tythegstone (Glam.). This land will probably be taken over immediately the hay crop has been harvested.

In many parts of the country landowners have shown an admirable spirit in relation to the provision of land for allotments by private treaty. An instance is reported by the Food Production Department from Haverhill (Suffolk), where 65½ acres of land have been provided by voluntary arrangement. This land has been cut up into 1,023 allotments; as there are only 1,056 houses in the town Haverhill must come very near to establishing a record in allotment holding. Some of the men to whom land has been allotted are on active service, and, in their absence, the allotments are being successfully carried on by their womenfolk.

**ALLOTMENT TENURE.**—In reply to inquiries, it is stated by the Food Production Department that war-time allotment holders who may receive notice to quit and be unable to arrange matters satisfactorily with the owner of the land they occupy should communicate with the Department. Advice has been given in a number of cases and practical assistance of various kinds in others. During the last week in May 11 allotment holders occupying an acre of land at West Molesey, and 17 allotment holders occupying 2½ acres at Deddington (Oxford), having received notices, appealed to the Department. An inspector was able in both cases to arrange for a continuance of the tenancy.

**FERTILISERS FOR ALLOTMENT HOLDERS.**—Allotment holders and small growers generally are informed that the Food Production Department is making arrangements with all "Approved" agents for the sale of fertilisers in the 1918-19 season to supply sulphate of ammonia, superphosphate, and basic slag in 14 lb., 28 lb., 56 lb., and 1 cwt. lots to meet the needs of allotment holders and small growers. It is hoped that this arrangement will obviate a difficulty experienced in some districts in the past season.—*Journal of the Board of Agriculture*, June, 1918.



## November The Month's Work.

### Southern and Western Counties.

By WM. CAMPBELL, Head Gardener to Lord  
Castletown, Doneraile, Co. Cork.

#### THE VEGETABLE GARDEN.

THE month of November we might term the beginning of the gardener's year. He must now begin to look around and arrange his plans for next year's cropping. Trenching should be carried out to some extent in every garden. All soft weeds and other garden refuse can be buried in the bottom of the trench, placing a layer of well-rotted manure nearer the top; leave the ground as rough as possible on the surface, so that the soil will get the full benefit of the frost and snow. All ground, whether it has been trenched or just turned over with the spade, should be left rough on top at this time of year.

**BROAD BEANS AND PEAS.**—Where a practice is made of sowing Peas and Beans in the autumn, now is the time to get them in. Cover the seed with 3 inches of soil. If rats or mice are likely to be troublesome coat the seeds before sowing with red lead; directly the seedlings are showing above the ground place evergreen twigs about them for protection. Personally I have never been very successful with autumn sowings, but soil and locality have a good deal to do with success or failure.

**ASPARAGUS.**—The grass or tops of Asparagus will now have died down, and should be cut off and cleared away with all weeds. Give the beds a dressing of seaweed if procurable, failing this dust the beds over freely with salt and give a mulch of cow manure.

**RHUBARB.**—Lightly dig over the ground between the stools and clear away all decaying foliage; lift a few more crowns for forcing. Where a new plantation is to be made trench the ground and well enrich with manure.

**CELERY.**—Give a final earthing to late Celery, beating the soil firmly with the back of the spade to throw off the rain.

**CAULIFLOWERS AND AUTUMN BROCCOLI.**—Where these are forming their curds they must be protected from frost. Cauliflowers and Lettuce planted in frames should have all the air possible on favourable days to keep them hardy.

**GENERAL WORK.**—Get manure wheeled out on vacant ground on frosty mornings, to have in readiness for digging. Get all vacant ground turned up as opportunity occurs; hoe growing crops, such as Tripoli Onions on fine days: it will keep the ground from getting hard and baked and also destroy small weeds. If some dry leaves are put around the crowns of Globe Artichokes with some straw litter over them to keep them from being blown away, it will protect the crowns from injury by frost. On wet days look over the Onions that are stored and remove any that are showing signs of decay.

#### THE FRUIT GARDEN.

November is the best month for planting all kinds of fruit trees. No time should be lost in getting the work in hand; as the trees or bushes arrive from the nurseries unpack them and heel into any vacant piece of ground until quite ready to plant them. If the ground is very wet wait until it is at least moderately dry before planting, so that the roots can be properly firmed; this cannot be done while the ground is wet and clings to the boots. Each tree should have a good stake placed to it, and be securely fastened with some soft tying material and avoid tying too tightly. In the case of trees planted against a wall or trellis, do not nail or tie them up for a week or two, as the ground is sure to subside a little no matter how well it is firmed.

**PRUNING.**—A start can now be made with Morello Cherries. I have often noticed that in many gardens too much wood is left in Morello Cherry trees. This is a mistake, as it only harbours insects and prevents a free circulation of air. By all means tie in plenty of young wood, but cut away all unfruitful and dead wood.

Where birds are troublesome it is best to defer the pruning of Gooseberries until later.

When Raspberries and Loganberries have all been tied up, mulch between the rows with half-rotten manure. Strawberries should be treated in the same way. Frequently look over Apples and Pears in the fruit room and remove any that are showing signs of decay.

#### THE FLOWER GARDEN.

Herbaceous borders can now be renovated. If the borders are infested with bad weeds, or the plants are getting overcrowded, it is best to lift all the plants clean out and stand them closely together in any convenient place, then thoroughly clean the border, afterwards digging in some good manure. The plants can then be cleaned and divided up into suitable pieces, using the outer portion of the clumps for replanting.

ROSES.—Early planting is one of the means to successful Rose growing. They love a rich soil, and the ground should be prepared for them accordingly. Before planting cut back with a sharp knife all thick and fleshy roots, or any root that may have been damaged in lifting. Spread out all fibrous roots and work some of the fine soil between them.

### Midland and Northern Counties.

By EDWARD RUTHERFORD, Gardener to Lord Farnham, Farnham House, Cavan.

#### THE FLOWER GARDEN.

MICHAELMAS DAISIES.—There are few plants to equal the Michaelmas Daisies for late flowering, but they are often spoilt by allowing them to grow undisturbed for a number of years. They should be dug up and replanted every year, selecting only small pieces for re-setting, as each piece will make a good specimen. Many of the old varieties are useless compared with the newer varieties.

VIOLETS.—Let the lights be drawn off the frames in which Violets are planted whenever the weather is favourable. Do not allow the roots to suffer for want of moisture. Watering should be done on fine mornings in order to allow the foliage to dry before evening. Remove decaying foliage constantly and stir a little soot among the soil to ward off slugs.

DAHLIAS.—Lift the roots of Dahlias for storing with care, as the tubers are easily broken. Label

each variety securely and place the roots in some airy shed or other convenient place to dry before storing them in a cool, dry shed where frost cannot reach them.

ROSES.—Are best when planted in November; but if the soil is very heavy, and wet weather set in, the work should be delayed until the spring. Good drainage and deep cultivation is essential for successful Rose growing. Rose beds that have been manured year after year should receive a dressing of lime or Basic Slag.

#### THE HARDY FRUIT GARDEN.

PRUNING.—This is an important work, and should be performed carefully, for the knife in the hand of the inexperienced has ruined many a good tree. The aim of the pruner should be to maintain a shapely bush or tree. It is important that light and air gain admittance among the branches, or otherwise the wood in the centre of the trees will be in danger of being only half-ripened. The pruner should be acquainted with the habit of fruiting of the different varieties. Most kinds bear the fruit on spurs, but several varieties develop fruit on well-ripened shoots made the previous year, and a knowledge of the varieties is required before the work can be properly performed. Pruning should be carried on while the weather remains mild.

THE FRUIT ROOM.—Examine the stocks of Apples and Pears in the fruit room, and remove all fruits which show signs of decay, for the decay spreads to other fruits and the moisture given off causes a musty smell. Where the fruit is stored in more than one layer, extra care will be needed in examining them, so as not to bruise the fruits.

LIQUID MANURE.—Where there are liquid manure tanks now is a good time to empty them and apply the contents to wall trees that have borne a good crop. The surface soil should be first loosened lightly with a fork to allow the liquid to reach the roots. The manure water must not be supplied at too great a strength.

LATE TURNIPS.—Turnips which are of a sufficient size for use may be lifted and placed under cover for the winter. Under-sized Turnips may be left in the ground for some time yet.

BOX EDGINGS.—The planting of box edgings may be carried out any time during the winter months when the weather is favourable. Some of the most successful box edgings are raised from cuttings. Gaps in box edgings may also be filled up in the same manner.

## THE KITCHEN GARDEN.

**LETTUCES IN FRAMES.**—Plants which are well advanced in growth should be afforded an abundance of air; on fine days the lights should be removed. During wet weather place bricks at top and bottom to allow a free circulation of air. Keep the soil stirred between the plants, and apply a little soot between the rows to protect from slugs.

**MUSHROOMS.**—The materials for the hot bed should be now collected and placed in an open shed and turned frequently. The proper fermentation of the material is an important matter, for if this is neglected the crop will be a failure. When enough manure has been collected make into a heap and allow it to ferment; when the heap is hot through it must be turned, putting all the outside portions into the inside with the object of insuring equal fermentation, it must be turned several times until the manure is thoroughly sweetened. The manure should now be removed to the Mushroom house and beaten together tightly to a depth of about 14 inches; as soon as the temperature has declined to 80° the spawn may be inserted. Place the spawn about 2 inches under the surface of the bed, and afterwards make the latter tight again by ramming. The surface of the bed should be covered with fine loam to the depth of 1 inch; keep the material damp, but guard against the too frequent use of the watering can.

**WINTER SPINACH.**—Decaying leaves should be removed from the plants and the soil between the rows stirred whenever it is dry enough to allow of the hoe being used. The plants grow better in soil that is broken up and allowed to remain rough, than in ground that has become trodden.

**LATE CELERY.**—If the earthing-up of the latest plants is still unfinished, take advantage of the first dry weather to place sufficient soil about the stems to blanch them and afford protection from severe frost.

**STORED VEGETABLES.**—Onions that have been stored should be overhauled during wet weather and decayed bulbs removed. Spread the remainder as thinly as possible over the floor or shelves and allow them to have plenty of air. Potatoes should be overhauled, and this will allow of the sets being picked for next year's planting. The sets should be placed in single layers, so that the shoots may develop stout and sturdy. Carrots should be lifted and stored, lacing some sand among them.

**MANURING AND TILLING.**—At the time of writing the weather is favourable for most kinds of kitchen garden work. Therefore push forward any alterations contemplated in the garden, and wheel manure on to the ground. If help permits the trenching of light lands should be pushed forward. Do not make the surface of the soil smooth, but leave it in a rough condition, that as large a quantity of soil as possible is exposed to the influence of the weather.

## The Utilisation of Cider Fruit in Food Production.

**FOR CULINARY PURPOSES.**—The sour or sharp class of cider apples presents no difficulty in this respect, and has always been more or less drawn upon when ordinary market varieties have cropped poorly; but the sweet and bitter-sweet classes have always hitherto been regarded as comparatively worthless for the purpose, since the fruit would not cook properly, always remaining hard or only irregularly softened. The work on apple pectins has shown that this was due solely to deficiency of acid, the greater part of the "pectin" in these apples being in a form more or less insoluble in water—even after prolonged cooking at boiling point under ordinary atmospheric pressure—but readily soluble in dilute acid solutions. The addition of the juice of any sour fruits or of any convenient and non-injurious kind of acid to the fruit during the course of cooking easily and quickly reduces the apples to a perfectly cooked state of pulp, and by this means any sweet or bitter-sweet variety can be used with complete success as a substitute for recognised culinary sorts.

**FOR JAM-MAKING.**—By the same means apple pulp suitable for use as a basis for jams can easily be prepared from the sweet and bitter-sweet kinds. A thoroughly palatable jam can be made from this pulp alone without the addition of any flavouring material. The method affords a new use for pressed apple pomace. Jam can be made from the latter as readily as from the whole fruit.

**FOR JELLY-MAKING.**—It was possible to arrange to carry out on a commercial scale during the cider-making season of 1917 a trial of making jelly from cider apple juice according to the method which has been worked out at the Station since the outbreak of war. Two centres were to be equipped for the purpose, one at the Research Station at Long Ashton and the other at Wedmore, near Cheddar. Two forms of evaporator were to be tested—viz., a Kestner evaporator, such as is used for the concentration of sugar syrups, at the former place, and an American type of fruit juice evaporator at the latter. It will be possible to test not only the suitability of these kinds of evaporating machines, but also the financial side of making this article, and to deal with the practical problems involved in working under commercial conditions. The schemes are being organised and financed by the Horticultural Division of the Food Production Department of the Board of Agriculture and Fisheries.—*Journal of the Board of Agriculture*, June, 1918.

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# Irish Gardening

## Contents

PAGE

The Garden in November . . . . 177

The Rock Garden—The Gromwells  
Lithospermum . . . . . 178

Haricot Beans . . . . . 179

Notes—

The Laurestinus . . . . . 180

Irises in December . . . . . 180

The Apple . . . . . 181

PAGE

The Vegetation of Mesopotamia (Illustrated) . . . . . 183

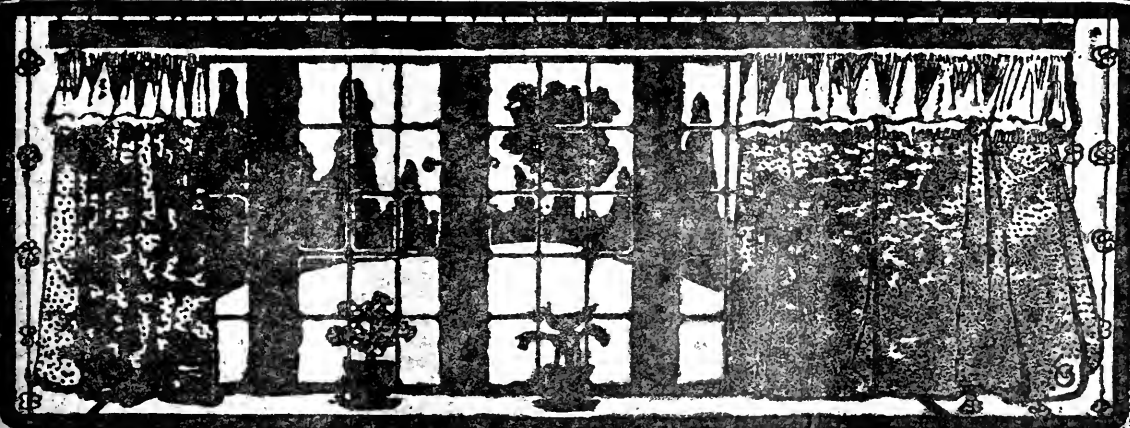
A List of Flowering Trees and Shrubs 184

The Month's Work—

Southern and Western Counties 186

Midland and Northern Counties 187

Illustration—2nd Lieut. Barker, M.C. 188



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# IRISH GARDENING

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DECEMBER

1918

EDITOR—J. W. BESANT

## The Garden in November.

To the ordinary individual not particularly interested in plants or gardens, and who is only attracted by some very vivid piece of colour or some enormous fruit or vegetable, November must seem a dull month in the garden. The days are short, the sky frequently overcast, many trees and shrubs leafless and bare-looking, and flower beds apparently empty, and sometimes actually so as far as plants are concerned.

Nevertheless, if the garden be an "all-round" one, there may be quite a lot of pleasure and instruction to be derived from it. Trees need not cease to be beautiful and interesting because they are leafless; the buds and branches are often more readily studied in winter than in summer, and a well-trained tree, when viewed against the sky-line, is an object of much beauty; so also with shrubs—they are inexhaustible in their variation, even if we only think of those that lose their leaves in winter. In habit there is a great variation from those which continue to increase the size and spread of the original shoots by continual branching to those which produce new shoots from the root every year. Then some are always bushes, while others are climbers and others ramblers—that is to say, they will spread over supports of various kinds without actually attaching themselves thereto. The colour of the shoots or branches also varies enormously, light grey in *Philadelphuses* and some *Deutzias*, white and dark reddish maroon in *Rubuses*, dark red to brilliant red and yellow in *Cornus*, brown in others, while the white stems of the "paper" Birches are beautiful all winter.

Sometimes gardens have been planted to excess with evergreens, yet in winter they are beautiful, and a fair proportion judiciously placed gives a warm and furnished appearance in addition to the intrinsic interest of the various kinds. In large places Conifers are fre-

quent except, perhaps, close to smoky towns, and in winter they are in their greatest beauty. Pines, Spruces, Silver Firs, Cypressess, Junipers, Arbor Vitæs, Yews, and others are a continual source of interest all winter. Many evergreen shrubs, too, are quite as pleasing in their winter dress. Healthy *Rhododendrons* bristling with flower buds are full of interest, many of them with large, handsome leaves, as, for instance, *Rh. Falconei*, a gem for the warmer counties; but others are hardly less attractive, as *Rh. decorum*, *R. Fortunei*, and many others often noted in this Journal. The hardier *Rhododendrons* stand smoke well, and some fine collections of hybrids are grown in the vicinity of large cities. The mere mention of *Aucuba* will make some people shudder simply because the variegated form has been planted to excess; yet there are green varieties of great beauty, some with small, narrow leaves, and others with large, handsome foliage, almost rivalling the "Cherry Laurel." In addition to the leaves there is often a crop of red berries to add to the beauty of the shrubs. Other evergreens often bright with berries are the *Skimmias*, neat growing shrubs, which might be seen oftener, especially in gardens of moderate size. A handsome evergreen is *Daphniphyllum macropodum*, with large, handsome leaves resembling those of some *Rhododendron*. Some of the *Daphnes*, too, are cheerful plants in winter—viz., the evergreen *D. pontica*, and also *D. laureola*, while the leafless *D. Mezereum* is already showing prominent flower buds.

The objection to variegated shrubs cannot surely be extended to *Rhamnus alaternus variegatus*, than which there is no more beautiful object in the garden at present. The shoots are well furnished with medium-sized leaves, each margined with creamy white, the whole effect being a fine silvery tone. For long we failed to grow it satisfactorily until we hit on a shrub-

bery, facing nearly south and backed by a wall; there it is growing into a fine bush, evidently enjoying the warmth and protection from cold blasts. There are some interesting and pretty evergreen *Euonymuses*, some with variegated leaves, but they are mostly well known. Not so common, however, is *Euonymus radicans* *Carrierei*, a useful shrub in many ways, and doubly attractive at present when carrying an enormous crop of fruits, which, splitting open, reveal the orange seeds. The genus *Osmanthus* allied to the Privets is worthy of more attention from planters. *O. Fortunei* is, perhaps, the handsomest species, with its attractive, toothed leaves, but *O. Aquifolium* is not to be despised as an evergreen, and its variegated form is quite a pretty shrub; there is also a purple-leaved form which gives variety.

*O. Delavayi*, comparatively new from China, has tiny leaves compared with the others, and bears many pure white flowers in early spring. *O. armatus* as a small plant looks decidedly promising, with long, narrow, coarsely-toothed leaves, but we cannot yet say much regarding its hardiness in the open garden. *Pittosporums* show great variety, and are beautiful shrubs where they thrive, but all are not hardy everywhere, and readers should refer to *IRISH GARDENING* of September, 1917, for an account of those killed and injured by the hard winter of 1916-17.

There are many other evergreens, some of them valuable for their flowers as well, but we need not pursue the subject further as it will be evident that if choice evergreens are planted carefully our gardens may be interesting and beautiful in winter as well as in summer. A final reference may be made to *Berberis verruculosa*, a most beautiful evergreen species introduced some years ago from China. It forms a neat shrub with small, spiny leaves, dark, glossy green above and glaucous below. A pleasing feature is that a proportion of the older leaves turn a brilliant scarlet in winter.

There are very few flowering plants to chronicle for November, though *Cyclamen Whittallii* flowered nicely on the edge of a moraine and near a pine tree early in the month. This refers to the outdoor garden, of course; indoors the display is ample, and in the flowering house batches of scarlet *Salvias*, scarlet "*Geraniums*," *Cyclamens*, *Primula obconica*, *Browallia denissa*, *Cinerarias*, *Plectranthus Mahoni*, *Euphorbia pulcherrima*, &c., make a brave show, winning the admiration of the Sunday visitors. *Chrysanthemums*, too, are now in their best dress, and there is no doubting the value of the single and semi-double decorative varieties as compared with

the so-called large-bloomed varieties. The latter are not now so popular, the best and most attractive being those known as incurved Japanese as opposed to those whose florets do not curve upwards.

Orchids, too, retain their hold on the public, exciting much wonder and admiration, while in the same house *Epiphyllum delicatum* a Cactus, with soft, pink flowers, made a pretty show. Later on we shall have *Acacias*, *Chorizemas*, and other New Holland plants to carry us on to spring. J. W. B., Glasnevin.

## The Rock Garden

### The Gromwells *Lithospermum*.

THE genus *Lithospermum* is one of the most interesting among hardy plants adapted for the rock garden. The best of them are dwarf, shrubby evergreens, valuable on this account in winter, while in summer they provide some of the finest shades of blue. Their cultivation is, fortunately, fairly easy—a sunny position in gritty soil suiting most of them. Propagation of the shrubby kinds is easily managed by cuttings of the half ripe shoots taken in August and inserted in sandy soil under a handlight. Seeds, too, are produced in some cases, and may be utilised to increase stock.

One of the best of the shrubby species is *L. graminifolium*, a prostrate grower, with long, narrow, glossy green leaves and clusters of lovely rich blue flowers.

*L. intermedium* is of more robust growth, though never of any great height. The leaves are broader than those of the previous species and of a duller green, but the lovely blue flowers are produced in generous profusion and for a considerable time, making this one of the best of rock plants.

*L. petraeum*, more correctly called *Moltkia petraea*, makes a fine specimen planted between rocks on a sunny slope; in this case the leaves are quite grey in appearance and the flowers a fine clear violet blue. Old plants of this species become quite shrubby and form thick, woody branches. Less easy to propagate than some; cuttings, nevertheless, may be rooted with care, and seeds are produced occasionally.

*L. prostratum* is probably the best known of the Gromwells, but not everywhere will it succeed. In some gardens it flourishes in pure peat and in others in gritty loam, while in still others it finds a congenial home as a wall plant. Perhaps a good, deep, gritty soil and sunny position suit its requirements as well as any other conditions. This remarkable plant is

nearly always in flower, but is finest in early summer.

There is a form called Heavenly Blue, or Dr. Lowe's variety, with lighter blue flowers, and said to be less fastidious regarding soil and situation.

*L. rosmarilifolium* is the least hardy of the lot, and in all but the mildest districts is little more than a greenhouse plant. As the specific name implies, the leaves resemble those of Rosemary, and the bright, blue flowers lined with white are quite attractive.

*L. canescens*, *L. hirtum*, and *L. multiflorum*

The former variety proved far the best both as regards cropping and ripening, for though sown somewhat late for the season that followed, we secured a crop of well-ripened Beans of the white variety; but the green Haricot being much later in maturing, produced very few really ripe pods, and when shelled at least half were discoloured and worthless.

The above varieties were not sown until the first week in June direct into the open ground as thick again as it was intended for them to remain, and when large enough every other plant was lifted and transplanted into a piece of



DATE PALMS BY THE MEDITERRANEAN AT NICE.

are interesting yellow-flowered species, forming tufts of leaves close to the soil or rocks, but not becoming woody like the others.

*L. Gastoni* is herbaceous inasmuch as the stems die down annually. It grows about a foot high, bearing at the end of each shoot several bright blue flowers, each with a white eye; it grows best in a moist position in half shade.

ALPINE.

## Haricot Beans.

In response to the Editor's request I have pleasure in relating my experience during the past season with the above—a season that was far from genial to their ripening.

I grew two kinds of the dwarf varieties for the purpose side by side on a south border following some early Turnips, the varieties being *White Everbearing* and *Dwarf Green Haricot*.

ground adjoining, which was not available at the time of sowing.

The showery weather prevailing, they grew away with little check, but transplanting needs careful doing, and the earlier the better.

I also grew a line of *Climbing White Haricot*. These were sown direct into a prepared trench on May 10th, and germinated well. As soon as these were well through, a dusting of soot was applied, and the soil loosened about the plants and staked as for Runners. I began to think they would be far from successful, for I well remember on August Bank Holiday there was scarcely a pod to be seen commencing to elongate; but after that date they grew away rapidly and ripened a very fair crop of pods to perfection. However, I would prefer the dwarf, as picking is a more tedious business than with the dwarf varieties; mine, of the latter, were pulled up and suspended in an airy house

to finish, whilst staking of the climbing varieties is also a serious item for many.

This season I had the pleasure of viewing for the first time the well-appointed gardens at Lota Lodge, so ably presided over by Mr. A. F. Pearson, who needs no introduction to readers of IRISH GARDENING.

At the time of my visit (the end of May) several borders were then already filled with plants of the Dutch Brown Bean that had been raised by sowing in boxes under glass. These had been planted out about a foot apart all ways and gave striking testimony to the great efforts that were being made towards increased food production; for not only in the kitchen garden proper were they installed, but also in borders which in normal times gave way to flowering subjects. ERNEST BECKETT.

Fota Gardens, Queenstown.

## Notes.

### The Laurestinus.

THOUGH correctly called *Viburnum Tinus*, it is not likely that the old name of this handsome shrub will be dropped. At the present time it is the most attractive plant in the outdoor garden, especially in sunny, sheltered positions, where it is now a mass of flowers. The prolonged mild weather has favoured the early development of the flowers, yet frost has comparatively little effect on them, for after a spell of hard weather the plants rapidly recover their beauty, and the flowers soon open again in response to a few hours of sunshine.

The flowering season is a prolonged one, extending from November well into spring, more especially if specimens are planted in various aspects; also there is considerable variation in the plants themselves, some flowering naturally earlier than others. As an evergreen the Laurestinus ranks high in Irish gardens, the glossy, green leaves being attractive at any season, while following the flowers there is often a crop of dark blue berries which remain on the plant frequently until the next season's flowers are open. As there are often flowers on the Laurestinus when the much-admired *Viburnum Carlesii* is in flower it is possible that a cross might be effected. If something of the sweet scent of the latter could be imparted to the Laurestinus it would be a gain. There are several varieties of "Laurestinus," notably *lucidum*, with larger leaves, *hirtum*, with slightly hairy leaves especially on the under surface, *purpureum*, with leaves of a purple tinge, a variegated form of no great merit, and various others listed in trade catalogues but not particularly distinct.

## Irises in December.

On fine days it is a cheerful sight to come on a clump of Iris in full flower, and happily it is possible even at this dull season. For the past fortnight or so Iris unguicularis alba has been a mass of flower at the base of a sunny wall. This charming white form of the Algerian Iris should be grown by all who love the outdoor garden. There is something peculiarly attractive in its flowers pushing up among and beyond the narrow leaves. Near to it the type plant is also flowering, bearing numerous bright lilac, fragrant flowers.

To grow these delightful flowers successfully the plants must have a sunny position and poor soil, otherwise leaves are produced in abundance and very few flowers.

Iris reticulata sphenensis is also now in full flower at the base of a wall facing south-west. This is a most attractive little Iris of a cheerful, light blue colour, the flower stems being only an inch or two high when the flowers expand; the leaves at this time are just beginning to pierce through the soil. It is a good doer, and the clump here is increasing annually.

Iris Vartani, also belonging to the dwarf section of Bulbous Irises, is flowering now. The flower stems are rather taller than those of the previous variety, and the colour is pale blue. A position sheltered from strong wind, yet exposed to the sun, is necessary.

J. W. B., Glasnevin.

December 13th.



SEDUM PYRAMIDALE

(Recently described by Mr. Lloyd Praeger)

See page 145.

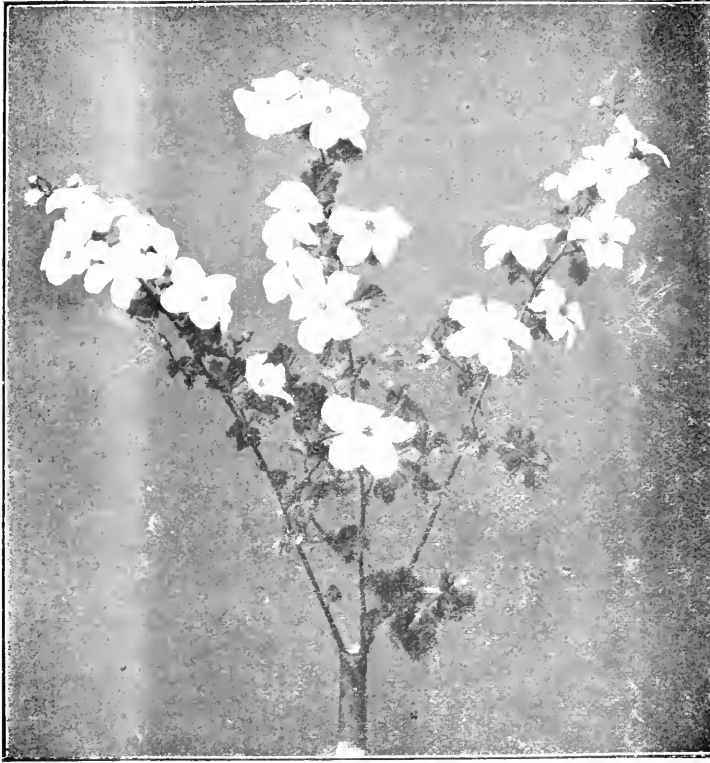
## The Apple.\*

### SOIL AND SITUATION.

IN the growing of fruits more ground is given to the apple than to any other kind, and the apple crop may be regarded from every point of view as the most important of all fruit crops.

New apple orchards are steadily being planted throughout Ireland. In certain districts the whole aspect of the country has been changed owing to the number of apple trees planted, and the

Apple trees cannot adapt themselves to every soil. They may grow for a time in any soil, but they will not remain healthy, or bear profitable crops, unless the soil be suitable. It is useless to plant in light peaty soil, or in wet peaty soil. It is also useless to plant in poor shallow soil, on gravel. The ideal soil is a good medium loam of fair depth, but by proper cultivation, and with care, good apples can be grown in stiff clayey



RUBUS DELICIOSUS  
A Rocky Mountain Bramble.

results attained from the sale of the produce of these orchards have been very satisfactory. On the other hand, the results attained from the sale of the products of old and neglected orchards, or of badly managed orchards, have been disappointing and unprofitable. Results can never be satisfactory unless fruit is well grown, and put on the market in a clean and attractive condition.

Intending planters should therefore commence in a practical and thoroughly sound way, and work on well-considered and definite lines.

loam, or in light sandy loam, provided there is sufficient depth.

*Situation.*—Fairly sheltered ground, with\* a slope towards S.E., S., W., or S.W., gives the best exposure.

It is not advisable to plant in a cold situation with N. or N.E. exposure, or on high ground much exposed to winds. Under no circumstance should apples be planted in low-lying, damp bottoms, or on flat ground close to a river; nor should they be planted close to high trees, as these intercept the sun, and their roots impoverish the soil for a distance of 50 to 100 feet from the stems. Shelter is very important, but it must

\* \* Leaflet No. 55½ (Revised), Department of Agriculture and Technical Instruction.



not be too dense. If necessary, belts of trees should be planted for shelter, selecting hardy and moderate growing trees, such as sycamore, mountain ash, hornbeam, Scots fir, and Austrian pine.

#### PREPARATION OF THE SOIL.

To attain the best results, ground in which apples are to be planted should be well prepared and thoroughly worked. Fresh manure has an injurious effect on young apple trees, therefore a crop should first be taken from the land. Early or mid-season potatoes form an excellent preparatory crop, as in cultivating these the ground is deeply worked and well broken up. Drainage is very important. Although the exact cause of canker in apple trees, and the history of this destructive disease are still not thoroughly understood, it is well known that it is most destructive and prevalent in damp and badly-drained situations. The health of the roots has a marked influence on the resisting power of the trees, and roots cannot be healthy in badly-drained soil.

Whether the site selected be under grass, or in tillage, it should be thoroughly manured, limed, and deeply ploughed the season previous to planting.

#### PLANTING AND PRUNING.

*Stocks.*—Before planting it is advisable to note on which stock the apples in the immediate vicinity seem to succeed best, Crab stock, Free or Seedling apple stock, or Paradise stock. The half-standards should be on the Crab or Free stock, and should have clean, healthy stems, 2 ft. 6 in. to 3 ft. high. The dwarf trees should be on the broad-leaved Paradise stock.

*Age of Trees.*—Opinions are divided as to the advisability of planting maiden trees, or two-year-old trees; however, if carefully handled and planted, there can be little doubt that the two-year-old trees are the best, and there is very little difference in the price. Three-year-old trees may also be planted with advantage.

*Planting.*—Trees should be ordered early, and planted during the month of November. They should be planted in squares, the dwarf trees 12 feet apart every way, the half-standards 24 feet apart every way. Each alternate row would thus consist of dwarf trees only, and the remaining rows of half-standards 24 feet apart, with a dwarf tree between each pair of half-standards; trees of the same kind being opposite to each other in the lines. This system renders after-cultivation much easier, as there are straight avenues between the trees of sufficient width to admit of cultivation by horse-power. When ready to plant, open holes 12 feet apart, and commence with a dwarf tree, following with a half-standard, alternating dwarf and half-standard, throughout the plot, in every second row—dwarf opposite dwarf, half-standard opposite half-standard. Spread the roots out carefully in a circle, not all on one side, and shake the clay well through them; then, when full, firm the surface gently with the foot. Do not plant too deep. When planted the roots should be near the surface, and the soil round the tree slightly above the level of the surrounding soil. It will gradually settle down, and if not slightly raised at first the

tree will eventually be in a depression, which is injurious.

*Pruning and Training.*—Young trees to be kept as dwarfs should be stopped 18 inches above the ground. Remove with a sharp knife the branches near the ground, retaining four or five branches distributed round the stem. Trees for half-standards should be stopped about 3 feet above the ground; all branches should be cut cleanly away, except four or five of the best situated branches near the top. In both cases the selected branches should be shortened back to about half their length. Remove any lateral branches with a tendency to grow inward or downwards. The object of the cultivator should be to induce the formation of a tree with branches sloping gently upwards, and with the centre kept clear and free, to admit air and light, each branch being allowed sufficient space to develop its lateral shoots freely without crowding the adjoining branches. During the summer (end of July), shorten back the laterals, remove any superfluous growths—those that are crossing or growing inwards—and if the growth is vigorous and the shoots bare, pinch the leaders. In the winter (February), repeat this process and shorten the leaders back; stop to one-third, or half their length, according to the formation of fruiting spurs. The object of pruning is to secure strong branches, well-placed, each with plenty of space, and covered with spurs, as the small wrinkled branches which bear the fruit are termed. If trees are not pruned the branches tend to get overcrowded; they get long and weak, and are not strong enough to support a crop of fruit, the lower parts of the branches do not develop spurs, and the weight of fruit at the end of the branches weighs them down. The fruit also easily gets knocked off by wind.

*Staking.*—In the case of two-year-old half-standards and dwarfs, it is hardly necessary to stake the plants, especially if care has been taken to plant them firmly. In the case of older half-standards and full-standards, they should be staked. The stakes should be inserted firmly in the holes before the trees are planted, as the trees may be injured if the stakes are driven in after planting. Care must be taken not to let the stakes rub the trees. This can be prevented by giving the tying material a couple of turns between the stake and the tree. The ties must be examined during the season, and loosened where necessary. The stakes may be removed the second season after planting.

*Cropping.*—Young plantations are much injured, and free growth checked, if allowed to carry fruit too soon. Remove any fruit which sets the first season. The second season each tree may be allowed to carry half a dozen fruits, and the third season a fair crop can be obtained. At all ages apples should be judiciously thinned by hand-picking. There is no more paying operation. The small apples picked off may be sold for preserving. A fair crop of good fruit will realise more money than a heavy crop of medium or poor fruit. The advantage to the trees is very great.

#### MANURING AND CULTIVATION.

It is a distinct advantage to young orchards if the ground between the rows is cultivated.



It is indifferent what crop is taken, provided it be not a rank-growing crop, which would grow tall and smother the small trees. Vegetables, flowers for market, potatoes, bush fruit, such as currants, and gooseberries, raspberries, and strawberries offer a wide selection. Do not disturb the ground within 3 feet of the trees. Two years' meadow can be sown if done in strips between the rows, but on no account should tall, rank grass be allowed to grow close to the trees. If apples are planted in meadow land a circle of at first 4 feet, increasing with the age of the trees to 8 feet, should be reserved round each tree, and kept open and free from grass and weeds. Strong grass immediately round the trees harbours insects, excludes air from the roots, and exhausts the soil, thereby bringing the trees into bad health and condition.

As soon as fair crops are obtained additional food must be given. Where available, farmyard manure, or even stable manure, applied as a surface dressing round each tree, is very beneficial. This can be lightly forked over in the spring without breaking or disturbing the roots. Artificial manure may also be applied. On certain soils basic slag has been found good, and where it is used the fruit colours well. A mixture of kainit and superphosphate, one of the former to two of the latter, may in alternate years be substituted for the basic slag. In years following a light crop a good dressing of fresh lime will be sufficient.

**Cleanliness.**—In practice it will be found apples succeed best in ground which is kept clear of weeds, and free and open by cultivation, and hoeing. Weeds encourage and shelter insects, exhaust the soil, and injuriously affect the trees. Absolute cleanliness is a point of first importance, and should on no account be neglected.

#### VARIETIES.

A certain amount of experimental cultivation of varieties may at first be tried. The intelligent grower will note what varieties of good apples succeed best in his district, and plant accordingly, carefully omitting delicate varieties, bad growers and uncertain croppers. To the well-known varieties some of the more recent introductions may be added. The number finally grown should be reduced to not more than twelve to twenty varieties, including cooking and dessert fruit. Growing a few good varieties covering as long as season as possible, and growing them well, will prove the most successful plan.

The following is a list to select from :—

**Cooking Varieties.**—Bismarck, Bramley's Seedling, Domino, Early Victoria, Ecklinville Seedling, Golden Noble, Grenadier, Hambling's Seedling, Lane's Prince Albert, Lord Derby, Lord Grosvenor, Newton Wonder, Peasgood's Nonsuch, Stirling Castle, The Queen, Tower of Glamis.

**Dessert Varieties.**—Allington, Beauty of Bath, Blenheim Orange, Cox's Orange Pippin, Gascoyne's Scarlet Seedling, Irish Peach, James Grieve, Lady Sudeley, Langley Pippin, Mr. Gladstone, Ribston Pippin.

For further information regarding varieties of apples, see the Department's Leaflet No. 64—(Varieties of Fruit Suitable for Cultivation in Ireland).

## The Vegetation of Mesopotamia.

IN a letter to Miss R. M. Pollock a friend in the British Expeditionary Force writes as follows :—  
 "... I may say there are no specimens of plant life here which are not to be found in one part or other of the United Kingdom in our well-equipped Botanical Gardens. As you, no doubt, are aware the dominant feature of this country is the Date Palm,\* which flourishes luxuriantly. The inflorescence develops about March, the male and female inflorescences being borne on separate trees. To ensure perfect pollination and fertilization an Arab is engaged to go round and procure the male inflorescence, one tree producing about six : this he cuts into very small pieces and secures them among the pistillate inflorescences. Pollination afterwards is effected by wind, there being no insects about at this time of year. The pollen is very highly scented. . . . The chief trees I have come across in this country (they are mostly fruits, very few ornamental), are *Eucalyptus globulus*, which grows to a magnificent specimen about 30 feet high ; we have two such trees in our garden here. The Olive makes a beautiful bush, and is very ornamental. *Acacia* is exceedingly pretty, and when in flower perfumes the whole place. Oranges and Limes (you have no doubt heard of the groves in Baghdad when our troops entered) are in flower about the end of March, and are indeed a most beautiful picture ; also in the autumn when the fruit is taking colour they are a sight never to be forgotten. Mulberries grow luxuriantly and make fine avenues, equal to any in the home country. The next that occurs to me is a tree that grows about 20 feet high, and bears small fruits something like a Peach ; two crops per year are gathered. The flower belongs to Rosaceæ, and the fruit is a drupe. It is known by the Arabs as M'buk, but having procured various interpreters I have not yet ascertained its English name. The Fig Tree, which dates back to the days of Adam and Eve, still flourishes, bearing three crops per year. A stray Willow may be found occasionally. Vines, the fruit of which as I write is available, do fairly well with very little attention. Peaches, Apricots, Nectarines, Plums and Apples—all deserve to be specially mentioned.

Flowers are not so successfully grown, their cultivation seeming to take a second place. Roses, *Chrysanthemums*, Poppies, Larkspurs, Hollyhocks, Marigolds, (Scotch and African), Camæa, Iris, Geraniums, Cacti, *Convolvulus*, Sunflower, *Arabis albidæ*, are about all we come in contact with. Gorse, with a pink flower, *Belladonna*, *Ranunculacææ*, and various ornamental grasses, may be found growing wild.

Tomatoes, Cucumbers, Pumpkins, Gourds, Ladies' Fingers, Onions, Potatoes, Lettuce, Radish, Beet, Carrots, Turnips, Cabbages, a few Cauliflowers—which are not so successful—are grown by the Arabs.

Various experiments are being carried out under British supervision. I myself have about eight acres attached to the hospital, and seven Arab gardeners.

At this time of the year the chief factor is irrigation, as we get practically no rain from the end of May to the beginning of November. . . ."

\* See page 179.

## A List of Flowering Trees and Shrubs.

A List of Flowering Trees and Shrubs, with approximate time of flowering and pruning. It is not possible to give absolute directions for pruning, as position and soil influence growth to a great extent. The following list, however, will supply a guide to those who frequently enquire *when to prune*.

NAME	APPROXIMATE TIME OF FLOWERING	PRUNING
†Abelia floribunda ...	July and August ...	Occasional thinning
.. rupestris ...	July onwards ...	"
.. triflora ...	June, July ...	"
Amelanchier canadensis ...	April, May ...	In winter or after flowering to preserve shape
.. vulgaris ...	May ...	"
Amygdalis communis ...	March and April ...	"
*Andromeda floribunda ...	April ...	Seldom wants pruning
* .. formosa ...	April and May ...	"
*Arbutus Unedo and vars. ...	October to February ...	"
Azaleas in variety ...	June ...	"
*Azara microphylla† ...	February and March ...	Occasional thinning after flowering
*Berberis aquifolium ...	February, March, April ...	"
* .. Darwinii ...	April and May ...	"
* .. empetrifolia ...	May ...	"
* .. stenophylla ...	April and May ...	"
Buddleia variabilis and vars. ...	August and September ...	Cut hard back in spring
*Carpentaria californica ...	June and July ...	Seldom wants pruning
†Caryopteris mastacanthus ...	October ...	Cut hard back in spring
†Ceanothus Gloire des Plantiers ...	August, September ...	"
.. Indigo ...	" ...	"
.. Leon Simon ...	" ...	"
.. rigidus ...	April, May ...	Cut back lightly after flowering
.. Veitchianus ...	May and June ...	"
†Cercis Siliquastrum ...	June ...	Seldom wants pruning
†Chimonanthus fragrans ...	Dec., Jan., Feb. ...	Cut back after flowering
*Choisya ternata ...	June and July ...	Occasional thinning
*Cistuses ...	June and July ...	Trim over after flowering
†Clematis aromatica ...	September ...	Cut back in spring
.. Calycina ...	March, April, May ...	Cut back after flowering
.. montana ...	June ...	Thin out after flowering
.. .. rubens ...	" ...	"
† .. Jackmannii ...	August, September ...	Cut back in early spring
*Convolvulus cneorum ...	June and July ...	Prune out old wood in spring
Crataegus, pink and white ...	May and June ...	In winter or after flowering
*Cotoneasters ...	June and July ...	In winter to preserve shape
†Cydonia japonica and vars. ...	February to June ...	After flowering
*Cytisus albus ...	May and June ...	†
.. Andreanus ...	" ...	"
.. Beani ...	" ...	"
.. Kewensis ...	" ...	"
.. præcox ...	" ...	"
.. purgans ...	" ...	"
.. nigricans ...	August, September ...	Cut back in spring
.. purpureus ...	June ...	Thin out after flowering
*Daboecia polifolia ...	September ...	Trim back in spring
.. alba ...	" ...	"
*Daphne blagayana ...	February, March ...	Seldom wants pruning
* .. Cneorum ...	June ...	"
.. Mezereum ...	February, March ...	"
Deutzia crenata ...	June and July ...	Thin out after flowering
.. gracilis varieties ...	" ...	"
.. .. hybrids ...	" ...	"
*Erica arborea ...	March to May ...	Trim back after flowering
* .. Carnea ...	February to April ...	"
* .. Darleyensis ...	February to April ...	"
* .. lusitanica ...	April, May ...	"

NAME	APPROXIMATE TIME OF FLOWERING	PRUNING
* <i>Erica mediterranea</i> ...	March to May	Trim back after flowering
* „ <i>stricta</i> ...	September, October	Trim back in early spring
* „ <i>vagans</i> ...	August to October	Trim back after flowering
* „ <i>Veitchii</i> ...	March	Thin out after flowering
* <i>Escallonia exoniensis</i> ...	June and July	Thin out after flowering
* „ <i>langleyensis</i> ...	„	„
* „ <i>macrantha</i> ...	„	„
† <i>Exochorda macrantha</i> ...	April	Cut back after flowering
* <i>Fabiana imbricata</i> ...	June and July	Cut back lightly after flowering
<i>Forsythia intermedia</i> ...	March	Thin out after flowering
„ <i>suspensa</i> ...	March and April	Cut back after flowering
† <i>Fuchsia macrostemma</i> ...	September onwards	Prune to height required in spring
„ <i>Riccartoni</i> ...	„	„
* <i>Garrya elliptica</i> ...	January and February	Occasional trimming in spring
* <i>Genista aethnensis</i> ...	August and September	Occasional cutting back in spring
„ <i>hispanica</i> ...	March to May	After flowering if necessary
„ <i>pilosa</i> ...	June	„
„ <i>tinctoria fl. pl.</i> ...	August, September	Cut back in early spring
<i>Hamamelis arborea</i> ...	February and March	Seldom wants pruning
„ <i>mollis</i> ...	January and February	„
* <i>Helianthemum</i> ...	June	Cut back flower shoots after flowering
† <i>Hibiscus syracus</i> ...	September, October	Occasional trimming in spring
<i>Hydrangea arborescens</i>		
„ <i>grandiflora</i> ...	July to September	Cut back in early spring
„ <i>hortensis</i> ...	August, September	Thin out occasionally
„ <i>paniculata</i> ...	„	Cut back in early spring
„ „ <i>grandiflora</i> ...	„	„
<i>Hypericum aureum</i> ...	September	„
„ <i>calycinum</i> ...	August	„
„ <i>patulum</i> ...	September	„
„ „ <i>Henryi</i> ...	„	„
<i>Indigofera Gerardiana</i> ...	August, September	„
* <i>Jamesia Americana</i> ...	June	Occasional thinning after flowering
† <i>Jasminum nudiflorum</i> ...	November to February	Cut back after flowering
<i>Kerria japonica</i> ...	April and May	Thin out after flowering
<i>Laburnum</i> ...	June	Occasionally to preserve shape
* <i>Laurestinus</i> ...	November to April	Occasionally after flowering
<i>Lavender</i> ...	August, September	Cut back in early spring
<i>Lilacs</i> ...	May and June	Thin out and cut off old flowers after flowering
† <i>Lonicera fragrantissima</i> ...	February, March	Cut back after flowering
† „ <i>Standishii</i> ...	January, February	„
<i>Magnolia conspicua</i> ...	May	Seldom wants pruning
„ <i>Soulangiana</i> ...	„	„
„ <i>Stellata</i> ...	April, May	„
* <i>Myrtus communis</i> ...	September, October	„
* <i>Olearia Haastii</i> ...	September	Thin out occasionally in spring
„ <i>Stellata</i> ...	June, July	„
<i>Ononis rotundifolia</i> ...	June	After flowering cut back lightly
<i>Perowskia atriplicifolia</i> ...	September, October	Prune hard in early spring
<i>Philadelphus Lemoinci</i> ...	June, July	Thin out after flowering
„ <i>Rosae</i> ...	„	„
„ many varieties ...	„	„
* <i>Potentilla fruticosa</i> ...	June onwards	Occasional thinning
<i>Prunus avium</i> ...	April, May	Seldom wants pruning
„ <i>cerasifera</i> ...	March, April	„
„ <i>Padus</i> ...	May	„
„ <i>Pissardi</i> ...	March, April	„
„ <i>pseudo-cerasus</i> ...	April, May	„
„ <i>serrulata</i> ...	„	„
„ <i>subhirtella</i> ...	„	„
„ <i>tomentosa</i> ...	„	Cut back lightly after flowering
„ <i>triloba</i> ...	„	„
<i>Pyrus communis</i> (Pear)	„	Winter or early spring to preserve shape
„ <i>floribunda</i> ...	„	„

NAME	APPROXIMATE TIME OF FLOWERING	PRUNING
<i>Pyrus prunifolia</i> ...	April, May ...	Winter or early spring to preserve shape
" <i>spectabilis</i> ...	" " ...	" " "
* <i>Rhododendrons</i> ...	May onwards ...	Seldom want pruning
<i>Ribes sanguineum</i> ...	March to May ...	Thin out after flowering
" <i>speciosum</i> ...	March to June ...	" " "
Rose, species ...	June ...	Thin out occasionally
" garden hybrids ...	June onwards ...	March
<i>Rubus deliciosus</i> ...	May and June ...	After flowering
" <i>nobilis</i> ...	August ...	Cut out old wood in spring
* <i>Skimmia japonica</i> ...	April, May ...	Seldom wants pruning
† <i>Solanum, crispum</i> ...	June to September ...	Occasional thinning out
† " <i>jasminoides</i> ...	August, September ...	" " "
* <i>Spartium junceum</i> ...	August to October ...	Thin out in spring
<i>Spiraea arguta</i> ...	April, May ...	After flowering
" <i>Douglasii</i> ...	August ...	Cut back in early spring
" <i>japonica</i> and varieties ...	August, September ...	" " "
" <i>nobleana</i> ...	August ...	" " "
* <i>Tricuspidaria</i> † <i>lanceolata</i> ...	June, July ...	Seldom requires pruning
* <i>Ulex europaeus</i> ...	February onwards ...	" " "
* <i>Veronica Autumn Glory</i> ...	August ...	Early spring if necessary to improve shape
* " <i>decumbens</i> ...	June ...	" " "
" <i>Gauntlettii</i> ...	August, October ...	" " "
* " <i>Haastii</i> ...	June ...	" " "
" <i>Hulkeana</i> ...	" " "	Thin out old wood occasionally
" <i>parviflora</i> ...	August ...	Early spring if necessary
* " <i>Traversii</i> ...	" " "	Thin out occasionally
<i>Viburnum lantamum</i> ...	June ...	" " "
" <i>opulus</i> ...	June, July ...	" " "
" <i>plicatum</i> ...	" " "	Seldom wants pruning
" <i>tomentosum</i> ...	" " "	" " "
<i>Weigelia</i> ( <i>Diervilla</i> ) ...	June and July ...	Thin out after flowering
" <i>floribunda</i> ...	" " "	" " "
" varieties ...	" " "	" " "

\* Evergreens usually, though some may lose their leaves in severe winters. Some *Rhododendrons* are deciduous.

† Shrubs that often do best against a wall.

## The Month's Work.

### Southern and Western Counties.

By WM. CAMPBELL, Head Gardener to Lord  
Castletown, Doneraile, Co. Cork.

#### THE VEGETABLE GARDEN.

WORK in the vegetable garden during December chiefly consists of digging and trenching. It is also a good time to make any alterations or improvements that may be contemplated. Collect leaves when the ground is not in a condition for digging; every winter for some years back I have made a practice of collecting several loads of leaves, and throwing them in an out-of-way corner. The following spring I place heaps of loam all over them and plant them with vegetable marrows, with excellent results.

CELERY.—If severe frost sets in it will be

necessary to protect Celery; straw or bracken will answer the purpose, but it must be removed when the frost is gone.

RHUBARB.—Continue to force Rhubarb, according to quantity required. It can now be brought on in the open ground; procure some old barrels, knock the bottoms out of them and place them over the crowns; pack around the barrels as much fermenting material as will retain the heat for a few weeks, but avoid too violent a heat. Oak or beech leaves mixed with a little stable manure will give all the heat required for forcing Rhubarb or Seakale; all that is required for Seakale is a mound of finely sifted coal ashes or sand, about one foot deep, placed over each clump or stool, putting a stake in each to mark where the Seakale is; then cover as many stools as you intend forcing with heating material, covering the intervening ground as well to a depth of 15 inches or so.

Cut and prepare Pea stakes, and make a fresh stock of labels, tie them in bundles and store away until required in the spring. Now is the time to lay in a good stock of loam for potting and other purposes.

## FRUIT GARDEN.

Continue to plant fruit trees, so that the work may be finished as early as possible. Prune and tie all trees on walls and trellising; after pruning is finished rake up and burn all prunings and shreds which have been taken off to be replaced by new ones. Eggs of insects, which the old shreds often contain if left lying about, will hatch in time and again infest the trees. As soon as all rubbish is cleared away some good rich manure should be spread over the roots, and lightly forked in, a little Basic Slag added at the same time will greatly benefit all kinds of fruit trees. Cuttings of gooseberry and currants may now be put in; rub the buds off the Gooseberry and White and Red Currants, with the exception of four or five at the top. Black Currants do not need this treatment, as the base buds on the cuttings are generally the best; when taking the cuttings select nice clean shoots. After the pruning of Gooseberry bushes dust them over with a mixture of lime and soot, to ward off the attacks of birds on the buds.

## FLOWER GARDEN.

Care must be taken to prevent damping in Zonals and other bedding plants. Avoid giving water, except when the plants are showing signs of distress; keep all decaying foliage picked off, and admit air on all favourable occasions. Fork over Strawberry borders, and cut back laurels and other strong growing shrubs that are getting out of bounds. When the ground is dry enough continue to clean and renovate herbaceous borders. Sweep lawns and roll them. Roses on walls or pillars can have all old and dead wood cut out and the remaining growth tied in.

Nearly twelve months ago, when I wrote my first notes for January, 1918, the dark cloud of war was hanging heavily over our heads. I urged then the necessity of everyone who possessed even a few yards of garden growing vegetables. To-day, when the whole world is ringing with the joyful news of peace with victory, let us not forget the lessons we have learned during the past four years: *that we can be a self-supporting nation if only those who possess a piece of ground would cultivate it to its fullest extent.*

## Midland and Northern Counties.

By EDWARD RUTHERFORD, Gardener to Lord Farnham, Farnham House, Cavan.

## THE KITCHEN GARDEN.

**EARLY POTATOES.**—Towards the end of the month a few Potatoes may be forced in heated pits or pots. Where the sets were placed in boxes to sprout they should be planted before the shoots become too large. The material for the pits should consist of stable manure and leaves well mixed together and allowed to ferment before placing in the frames, and should be well packed together to provide a lasting heat; then cover with soil to about a depth of 10 inches. When the soil is warmed plant the Potatoes, allowing them plenty of room.

**SPRING CABBAGES.**—If the plants have grown strongly and are loose at the stems draw a little soil about them, it will also help to protect them during hard frost. Select a dry day when the soil is not sticky.

**CAULIFLOWER.**—A sowing of some early variety of Cauliflower should be made at the end of the month where there are no autumn-sown plants, or where the supply is short. The seed may be sown in boxes and placed in a greenhouse; the seed should not be sown too thickly. When the seedlings are large enough they should be transplanted into boxes and kept close to the glass.

**SEAKALE.**—The present is a good time to make preparations for raising next season's plants by making cuttings from portions of the roots which should be selected when the crowns are lifted for forcing purposes. Seakale requires a deep rich soil, and this should be now trenched and prepared for next season's crop.

**DIGGING.**—As soon as the ground becomes vacant get it dug or trenched in readiness for next spring. Take advantage of frosty mornings to get manure wheeled on to vacant ground; in the absence of frost a few planks will be necessary. Do not allow the manure to remain on the ground longer than necessary before digging it in, as it soon loses some of its value, as well as being untidy.

**THE FRAME GROUND** should be got tidy and everything in proper order for the approaching busy season. Litter and leaves should be collected and placed in readiness for the making of hotbeds. The manure heap should be turned to assist decomposition, mixing leaves among it, or any other suitable rubbish, as it is almost impossible to obtain extra manure owing to extra tillage on the farm.

**MUSTARD AND CRESS** should be sown weekly, so that a supply may be maintained through the winter. A slightly heated house will suit.

**RHUBARB AND SEAKALE.**—A supply of fresh roots should be placed in heat every fortnight. Where large quantities are required a heated Mushroom house will be suitable; cover the roots with soil, and do not allow them to become dry at any time.

**REMARKS.**—Owing to the war being over a good many people may give up growing vegetables, but they should not do so, as the food stuffs will not be coming into the country in large quantities for a long time; also the Belgium and central European Countries will be very short of food until the next harvest. Anyone possessing a garden would be well advised to continue growing what vegetables possible, they would then have fresh vegetables when required in place of very often getting stale vegetables from the greengrocer. The amateur very often makes the mistake of sowing too many small seeds, such as Lettuce, Radish, &c., which means a gap in the supply as well as being wasteful; it would be much better to sow a little every fortnight.

A good many large gardens have been neglected since the war started owing to the shortage of labour, and in some cases the glasshouses have been closed up entirely. Gardeners will have a busy time getting the places in working order, as skilled labour will be very scarce for a long time, since a large number of young gardeners have laid down their lives for their country.

## THE HARDY FRUIT GARDEN.

**RASPBERRIES AND BLACKBERRIES.**—If the old fruiting canes were cut out after the fruit was gathered, the best of the new canes may now be fastened securely to the wires or stakes, cutting out all the weak canes and any that are not required, taking care to avoid overcrowding. When finished pruning and tying the surface of the soil should be lightly pointed over with a fork. Then apply a good mulch of farmyard manure. Loganberries may be treated in a similar manner.

**PLANTING AND ROOT-PRUNING.**—The wet weather has delayed this work, but it is nevertheless desirable to wait for fine weather rather than plant when the ground is in an unsuitable condition. Pruning and training can be attended to in the case of wall trees. Trees arriving from the nursery during wet weather should be heeled in, placing plenty of soil about the roots. If the trees arrive during very frosty weather it is better not to unpack them, but place them just as they are in a shed. When the weather becomes milder they can be heeled in.

Stakes for securing fruit trees should be prepared and the necessary staking done.

When tying the stems of the tree use a piece of cloth or other soft material round the part where the string is tied; fasten them securely, so as there will be no danger of the bark being injured. Orchard trees that are in a bad condition should have all weak growth cut out, especially in the centre of the trees; expose every branch if possible to the sun.

Grass orchards can be improved by clearing the sod off about 6 feet around the trees, then lightly fork it over, and apply farm yard manure or Basic Slag.

**STRAWBERRIES.**—The beds should be lightly forked over during favourable weather and made tidy. Established beds should be given a good mulch of well-rotted manure, the substance will

be washed into the soil by the rains. The Strawberry is a gross feeder. In the case of beds which were planted last autumn this heavy mulching will not be required. The present is a suitable time for preparing ground intended for planting Strawberries next year. Trench the soil and work in plenty of manure as the digging proceeds.

Leave the surface of the soil in as rough a condition as possible, so that it may be exposed to the frost and air. A suitable crop to precede Strawberries is early Potatoes.

## THE FLOWER GARDEN.

**TRENCHING AND DIGGING.**—Any flower beds that are not planted with spring bedding or bulbs should be dug or trenched if the soil needs enriching, afford it a good dressing of manure and leaf soil; let the surface remain as rough as possible.

**LILY OF THE VALLEY.**—The present is a good time to make fresh beds of Lily of the Valley. Any that have occupied the same piece of ground for some years should now be taken up and divided, the ground should be deeply dug and plenty of leaf-mould and manure added to it. In dividing the crows, select all the largest, those which will produce flowers, and plant them by themselves, planting the smaller ones elsewhere. A fresh bed should be planted each year where possible.

**GRASS VERGES.**—Any worn patches in the grass edging by the side of paths or drives may now be renovated. Remove the turf and place sufficient fresh soil to raise the sod to its proper level. If the grass is badly worn it is better to get fresh sods: when doing this see that

all drains are in good working order.

**CUTTINGS IN FRAMES.**—Carnations, Calceolaria and Marguerite, &c., should be ventilated in mild weather; if attended to, this will keep them hardy and enable them to withstand hard weather. Remove all dead foliage and keep them free of weeds; have ready some covering in case of hard frost, to cover the frames.



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(See page 157.)

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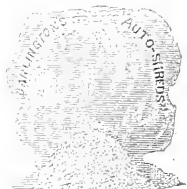
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2	The Use and Purchase of Feeding Stuffs	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight	58	Sprouting Seed Potatoes.
6	Charlock (or Preshaugh) Spraying	59	Testing of Farm Seeds.
7	Fluke in Sheep.	60	The Packing of Butter.
8	Timothy Meadows.	61	Field Experiments—Wheat.
9	The Turnip Fly.	62	The Management of Dairy Cows.
10	Wireworms.	63	"Redwater" or "Blood Murrain" in Cattle.
11	Prevention of White Scour in Calves.	64	Varieties of Fruit suitable for cultivation in Ireland.
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22	Basic Slag.	75	Barley Sowing.
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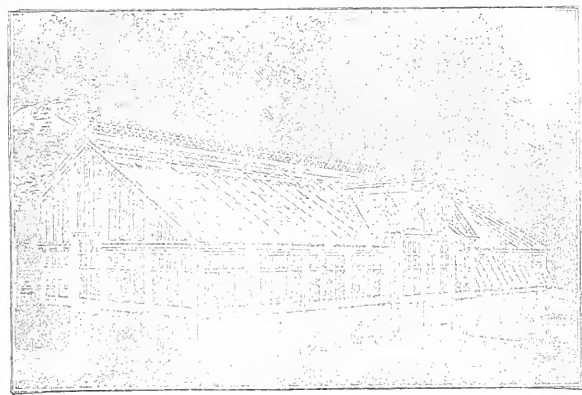
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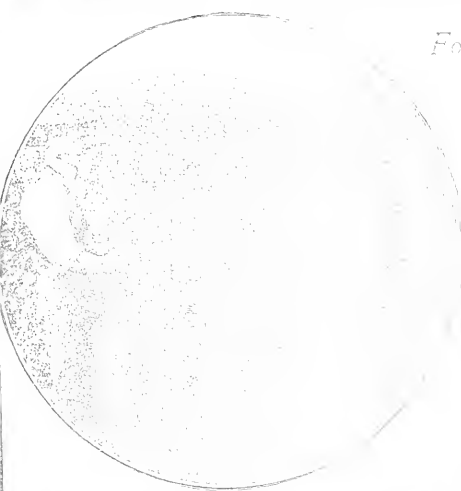
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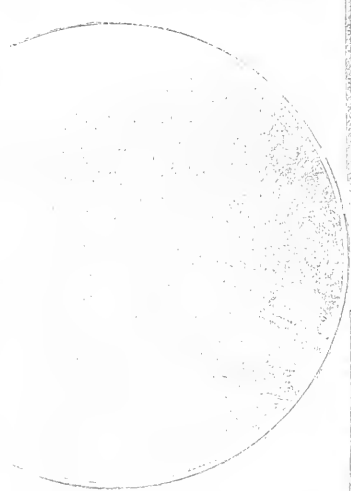
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## Winter Spraying of Fruit Trees.

THE following extracts are from the "Spraying Calendar," given by Professor Pickering, M.A., F.R.S., Director of the Woburn Experimental Fruit Farm, and F. V. Theobald, M.A., Vice-Principal, South Eastern Agricultural College, Wye, Kent, in their very useful hand-book, "Fruit Trees and their Enemies." (Copies of this book can be had post free for 1s. 9d. each.)

"Apart from the consideration of the direct action of a winter wash in destroying various pests which are probably present, moss, lichen and dead bark must always accumulate, and the freer trees are kept from these the healthier they will be, and the less will be the opportunities afforded for insects to flourish on them."

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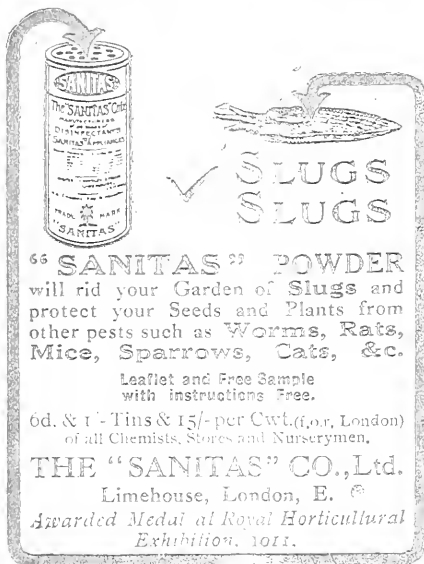
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**THOMSON'S VINE PLANT & VEGETABLE MANURE**

Unrivalled for all Garden Crops.  
So Compounded as to combine Stimulating with lasting effects. Produces vigorous, healthy, and fruitful growth. Also

**THOMSON'S Special Toppdressing Manure.**  
An Excellent Stimulant.

**PRICES**  
Note—Quantities of 56lbs. and over are supplied in 28lb. bags.

Vine, Plant, and Vegetable Manure.—  
112 lbs., 24/-; 56 lbs., 13/6; 28 lbs., 7/6; 14 lbs., 4/6; 7 lbs., 2/6; Tins, 2/6, 1/-, and 1/2d. Carriage paid on 56 lbs. and up anywhere in United Kingdom.

Special Toppdressing Manure—56 lbs., 20/-; 28 lbs., 11/-; 14 lbs., 6/-; 7 lbs., 3/6; Tins, 1/- Carriage paid on 28 lb. and up anywhere in United Kingdom. Also

Thomson's Styptic, 3/- and 1/6 per bottle.

Sold for Horticultural purposes by all Seedsmen and Nurserymen, or from

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For the following Well Known and Highly Efficient Horticultural Preparations.

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A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

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1 gallon sufficient for 80 gallons of water.

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Exceeds all others in General Fertilising Properties and Staying Powers  
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For the complete destruction of Worms on Lawns, Bowling Greens, Putting Greens, and Golf Links.

**NOT INJURIOUS TO ANIMALS OR BIRDS.**

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Lbs.	7	14	28	56	112	5 cwt.	10 cwt.	1 ton.
Each	1/9	3/-	5/-	7/6	12/-	for 57/6	110/-	210/-

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## Royal Horticultural Society of Ireland.

THE 88th annual general meeting was held at the offices, 5 Molesworth-st. S., Dublin, on the 11th ult., the Marquis of Londonderry, President of the Society, presiding. Lord Frederick Fitzgibbon moved the adoption of the report with statement of accounts for the year ending Dec. 31st, 1917, which was seconded by Major John McNeill, and, after a short debate, being put to the vote, was adopted unanimously.

## Dublin Wholesale Markets.

RATHER better supplies of fruit and onions reached the markets last month from Cross-Channel sources, but still the quantity is far below ordinary times. Home-grown fruit remains fairly plentiful. Fresh Apples packed in barrels, bushel boxes and trays were in good demand, and selling at excellent prices. Pears of good quality were supplied in fair quantity and selling at average prices. Grapes continue to arrive in poor order, especially from Algeria.

Regarding vegetables, the frosty weather for a few days at the beginning of the month caused some shrinkage in supplies, and on this account prices were fairly good, but towards the end of the month prices were lower. Cabbages had to be offered at lower prices than may prove to clear. Broccoli is now in better selling at profitable prices. Cauliflowers of good quality are plentiful, and are selling at prices which are not by any means unprofitable. Celery and White Turnips continue to be plentiful, and prices, on the whole are low. All other vegetables attract little attention in prices from last month.

In the flower section, Chrysanthemums were not so plentiful, and were selling at good prices. A feature of the past month's markets was large supplies of Ivy, Holly, Mistletoe and Suetex, which sold at very good prices.

The following is a price list for the month:—

	From	To
	s. d.	s. d.
Apples		
per barrel	21 3	45 0
per bushel	1 3	20 0
.. (small)	1 0	16 0
Pears (small)	8 6	16 0
.. (seeds)	8 6	8 0
Grapes	1 6	2 3

	From	To
	s. d.	s. d.
VEGETABLES.		
Cabbages		
per load	3 0	20 0
(Savoy)	5 0	13 0
Cauliflowers	2 6	4 0
Broccoli	6 0	8 0
Celery	0 10	2 6
Ch. Stems	1 6	2 9
Parsnips	1 9	2 0
..	5 0	6 0
Carrots	0 10	1 2
..	5 0	5 6
Turnips	0 3	0 9
Onions (Irish)	35 0	17 0
Leeks	0 6	0 9
Beet	0 3	0 6
Parsley	0 8	1 0
Thyme	0 8	1 0

	From	To
	s. d.	s. d.
FLOWERS.		
Chrysanthemums	1 0	2 0
Suetex	1 0	1 9

J. S. T.

# 1918

## New Volume

## IRISH GARDENING

THE new volume will sustain the old standard of excellence as to authoritative articles on both the practical and scientific side of gardening, but new features and new writers will be introduced during the course of the year. Every Irish gardener and every owner of any size garden in Ireland should obtain IRISH GARDENING (monthly) and read it! and having read it should preserve it for binding—it is worth it.

Last year's volume (1917) can be supplied bound in Green Cloth, 7/- post free.

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BERGER'S LIME-SULPHUR WASH  
CAUSTIC SODA 98 per cent.  
PARAFFIN (SOLAR DISTILLATE)  
PURE SOFT SOAP

COPPER SULPHATE, 98 per cent.  
COOPER'S V I WINTER  
SPRAY FLUID  
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HORTICULTURAL CHEMIST



# Miscellaneous Section.

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Are absolutely healthy and regularly transplanted  
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THUYA OCCIDENTALIS, and other Orna-  
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A small trial order will convince of the very meritorious  
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Very extensive stock to select from. Satisfaction  
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Weeding  
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GARDEN AIDS  
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No trouble. Simply dust it on  
10 lbs. post free, 3s., or 28  
lbs. to dress 250 square yards,  
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Send the measurements of your borders.

Paeonies, Delphiniums, Phloxes, Gaillardias, and other beautiful flowers, included in their Colour Schemes, which provide blooms from early Spring to late Autumn.

Write now to the Retail Plant Department for REDUCED PRICE LIST.

## FOOD SEEDS.—NOTICE.

We, Kelway & Son, beg to intimate that our energies are concentrated, under present circumstances, on the production of Food Seeds for this country and the British Dominions and our Allies, distributed by us to Seedsmen.

At the same time, our retail Nursery Department, which is conducted separately, and the output from which forms an exceedingly small proportion of our trade, wishes it to be understood that its large pre-war stocks of hardy garden plants and fruit trees are at the service of those who require them.

The Nursery staff is, naturally, excessively small, and orders should be placed as early as possible to ensure delivery at the time required.

Our seeds are only supplied to Seedsmen.

KELWAY & SON.

Wholesale Seed Growers and Merchants,  
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MICHAELMAS DAISIES, ALPINES

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**AUTO-SHREDS** IS CERTAIN  
DEATH to  
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Simple to use, no apparatus required. In  
Boxes to fumigate 1,000 cubic feet, 6d.;  
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for tender and ordinary plants, 10,000  
cubic feet, 3s. 6d. each. Obtained of  
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any direct—

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Ltd.

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MANY NEW FRUITS FOR 1918.

MANY THOUSANDS of Well Trained, Beautifully Rooted APPLES, PEARS, PLUMS, PEACHES, NECTARINES, APRICOTS, CHERRIES, FIGS, VINES, NUTS, GOOSEBERRIES, CURRANTS, RASPBERRIES.

AS STANDARDS, 2/6 each, 2-1/2 for 4/- BUSHES, 1/6 to 3/6 each; PYRAMIDS, 1/6 to 3/- each; ESPALIERS, 3/6 to 5/- each; COPTONS, from 1/6 to 2/6 each; WALL TREES, 3/6 to 7/6 each.

New fully Illustrated and Descriptive Catalogue Gratis.

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Over half a million to select from

Thousands of Maiden Two and Three-year Old Apples on English Paradise.

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CELEBRATED

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# LIST OF THE DEPARTMENT'S LEAFLETS.

No.	Name	No.	Name
1	The Flea-Bite Fly.	54	Self Feeds.
2	The Use and Purchase of Feeding Stuffs.	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop.
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight.	58	Sprouting Seed Potatoes.
6	Charlock or Brashlaugh Spraying.	59	Testing of Farm Seeds.
7	Milks in Sheep.	60	The Packing of Butter.
8	Timothy Meadows.	61	Field Experiments—Wheat.
9	The Turnip Fly.	62	The Management of Dairy Cows.
10	Wheworms.	63	"Bleed" or "Blood" Murrain" in Cattle.
11	Navigation of White Scour in Calves.	64	Selection of Fruit suitable for cultivation in Ireland.
12	Liquid Manure.	65	Forestry: The Planting of Waste Lands.
13	Contagious Abortion in Cattle.	66	Forestry: The Proper Method of Planting Forest Trees.
14	Prevention of Potato Blight.	67	Forestry: Trees for Poles and Timber.
15	Milk Records.	68	Forestry: Trees for Shelter and Ornament.
16	Sheep Scab.	69	The Prevention of Tuberculosis in Cattle.
17	The Use and Purchase of Manures.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
18	Swine Fever.	71	Forestry: The Management of Plantations.
19	Early Potatoes Growing.	72	Forestry: Felling and Selling Timber.
20	Calf Rearing.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Sarg.	75	Barley Sowing.
23	Diseases of Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Bulls.	77	Scour and Wasting in Young Cattle.
25	Powl Cholera.	78	Home Buttermaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits.
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter.	81	Potato Culture on Small Farms.
29	Flax Seed.	82	Cultivation of Main Crop Potatoes.
30	Poultry Parasites—Fleas, Mites, and Lice.	83	Cultivation of Osiers.
31	Winter Egg Production.	84	Ensilage.
32	Rearing and Fattening of Turkeys.	85	Some Injurious Orchard Insects.
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34	The Revival of Tillage.	87	Barley Threshing.
35	The Liming of Land.	88	The Home Bottling of Fruit.
36	Field Experiments—Barley.	89	The Construction of Piggeries.
37	" " Meadow Hay.	90	The Advantages of Early Ploughing.
38	" " Potatoes.	91	Black Scab in Potatoes.
39	" " Mangolds.	92	Home Preservation of Eggs.
40	" " Oats.	93	Marketing of Wild Fruits.
41	" " Turnips.	94	Cost of Forest Planting.
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52	Flax Growing Experiments.		
53	The Construction of a Cowhouse.		

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1	Catch Crops—Spring Feeding for Stock.	10	Pig Feeding—The Need for Economy.
2	Autumn Sown Cereals.	11	Poultry " " " " " "
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5	Spring Wheat.	14	Flax Seed for 1918 Sowing.
6	Winter Manuring Grass Lands.	15	Purchase of Basic Slag.
7	Feeding of Pigs—Use of Boiled Swedes.	16	Prices of Superphosphate.
8	Destruction of Farm Pests.	17	" " Compound Fertilisers.
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Treatment of Allotments for the Growing of Vegetables.

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

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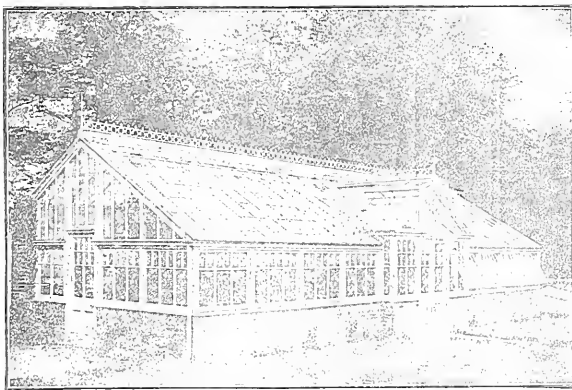
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CARRIAGE AND PACKAGE FREE.

**SUTTON & SONS, The King's Seedsmen, READING**

## WAR TIME SEEDS FOR YOUR GARDEN

**GARDEN SEEDS, SEED POTATOES, &c.**

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**EDMONDSON BROS.**

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## Winter Spraying of Fruit Trees.

THE following extracts are from "Spraying Calendar," given by Professor P. Gering, M.A., F.R.S., Director of the Woburn Experimental Fruit Farm, and F. V. Theobald, M.A., Vice-Principal, South Eastern Agricultural College, Wye, Kent, in their very useful hand-book, "Fruit Trees and their Enemies." (Copies of this book can be had post free for 1s. 9d. each.)

"Apart from the consideration of the direct action of a winter wash in destroying various pests which are probably present, moss, lichen and dead bark must always accumulate, and the finer trees are kept from these the healthier they will be, and the less will be the opportunities afforded for insects to flourish on them."

"From January to March.—Spray tree with a caustic paraffin emulsion for cleansing them of dead bark, and destroying moss, lichen, mussel scale, small apple ermin moth, gooseberry and currant scale, gooseberry spider, currant shoot and fruit moth, pear leaf blister mite, and possibly other insects."

Winter spraying is now resorted to by practically every up-to-date fruit grower. The formula most recommended for Winter Spraying Emulsion is as follows:—Soft soap  $\frac{1}{2}$  lb.; paraffin (solar distillate) 5 pints; caustic soda, 2 to 2½ lbs.; water, 9½ gallons. The necessary articles for this and all other Spraying and Fumigating Mixtures can be had, with directions for mixing, from D. M. Watson, M.P.S., Horticultural Chemist, 61 South Great George's Street, Dublin. Phone, 1971.

## Catalogues.

HOME SAVED SEEDS.—Mr. T. Smith has issued his list of home saved seeds of hardy perennials, Brooms, Whins, &c. The list includes many of the finest herbaceous and alpine plants as well as choice shrubs. In these days, when tender exotics are, for the time being, restricted, many will welcome the opportunity of adding to their gardens some of the more beautiful hardy plants. Among alpinists we note such delightful plants as *Geranium cinereum* and *G. argenteum*, *Hypericum coris* and *H. repens*, *Meconopsis* of sorts and many others, while among shrubs the famous Daisy Hill Brooms can be acquired very cheaply, as well as various other beautiful *Cytisus* and *Genistas*, *Andromedas*, *Kalmias*, *Barberries*, *Cotoneasters*, *Ericas*, &c. The list should be in the hands of all who love a garden. To be obtained from Mr. T. Smith, Daisy Hill Nurseries, Newry.

FLOWERS FROM SEEDS.—As announced in our last issue, Messrs. Sutton & Sons, of Reading, have found it necessary to issue their flower and vegetable catalogues separately. The flower section is now to hand. The illustrations are, as usual, such as have made Sutton's catalogues famous, and we note that most of the old favourite summer flowers—annual, biennial and perennial—still find a place. The famous *Antirrhinums*, which, on account of their easy and inexpensive culture, have been largely used during wartime, are well represented, and the strains of *Clarkias*, *Godecias* and *Larkspurs*, which come from Reading, are to be had in plenty. Although food production is now paramount we cannot forget the pleasure flowers give to those in sorrow and suffering.

Sow

# Hawlmarm Seeds

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# Hawlmarm Dicksons

and you will get

# Hallmark Results

Catalogues free from

**ALEX. DICKSON & SONS, LIMITED,**  
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THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 11th ult. Present:—Sir Frederick W. Moore, Messrs. R. Anderson, J. Wylie-Henderson, W. Usher, H. Bill and H. E. Richardson, with Mr. E. H. Walpole presiding. Regrets at inability to attend were received from the Marquis of Headfort, President; Messrs. A. V. Montgomery, R. T. Harris, LL.D.; George Watson and E. D'Olier.

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will rid your Garden of Slugs and protect your Seeds and Plants from other pests such as Worms, Rats, Mice, Sparrows, Cats, &c.

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**THE "SANITAS" CO., Ltd.**  
Limehouse, London, E. &  
*Awarded Medal at Royal Horticultural Exhibition, 1912.*

**SANKEY'S FAMOUS GARDEN POTS**  
**Get BEST and Cheapest**  
 Six varieties of choice flowers and shrubs, garden plants,  
 and shrubs, and many more, all at half price of  
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**SPECIAL FOR** all orders of 100 plants or more.  
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THOMSON'S  
FINE PLANT & VEGETABLE  
MANURE

Unrivalled  
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So Compounded as to combine  
Stimulating with lasting effects.  
Produces vigorous, healthy, and  
fruitful growth Also

Special **THOMSON'S** Topdressing Manure.  
An Excellent Stimulant.

PRICES

Note—Quantities of 56lbs. and over are supplied in 28lb. bags.

Vine. Plant, and Vegetable Manure.—  
112 lbs., 24/-; 56 lbs., 13/6; 28 lbs.,  
7/6; 14 lbs., 4/6; 7 lbs., 2/6; Tins, 2/6.

1/-, and 6d. Carriage paid on 56 lbs. and up anywhere in United Kingdom.  
Special Topdressing Manure—56 lbs.

20/-; 28lbs., 11/-; 14lbs., 6/-; 7lbs.  
3/6: Tins, 1/- Carriage paid on 28lb.  
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Thomson's Styptic, 3/- and 1/6  
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Messrs. R. T. Harris and A. V. Montgomery were elected Chairman and Vice-Chairman, respectively, and Sir Frederick W. Moore, Hon. Secretary, for the ensuing year. The various committees were appointed. On a motion by J. J. Wylie-Henderson that the Society hold private exhibitions for members and their friends, it was decided that the schedule committee should meet on Friday, the 25th ult. to consider the matter and draft the schedule for a spring show, and submit same to the meeting of the Council on Friday, 8th February.

## Dublin Wholesale Markets.

At the beginning of the month the supply of vegetables was abundant: Cabbages practically unsaleable at give away prices. Towards the middle and end of the month supplies decreased, owing to the frosty condition of the weather, and prices rose a little. Celery continues to be plentiful, but the demand is very poor. The Control price for Irish Onions has been fixed at 3s. 6d. per stone, but there were practically no home-grown Onions to be had: some consignments of foreign Onions arrived, and were readily bought up at good prices. Nearly all vegetables were making very small prices for this time of year.

Very small arrivals of Cross-channel fruits were to hand last month. The supply of home grown Apples was not so good as in the previous month, but the demand was brisk and the prices very good.

Flowers were offered in limited quantities, and were instantly bought up at good prices.

The following is a price list for the month:—

		From		To	
FRUIT.		s. d.	s. d.		
Apples	per barrel	35	0	63	0
..	per bushel box	8	0	14	0
..	per tray	3	0	6	0
.. (small)	per float	2	6	3	0
VEGETABLES.					
Cabbages	per load	10	0	25	0
.. (Savoy)	..	12	0	21	0
Cauliflowers	per flasket	2	6	1	0
Broccoli	..	5	0	7	0
Celery	per bunch	1	6	2	0

		From		To	
VEGETABLES.		s. d.	s. d.		
Br. Sprouts	per float	2	0	3	0
Parasips	per doz. bunches	1	6	2	0
..	per cwt.	6	0	6	6
Carrots	per doz. bunches	0	8	1	0
..	per cwt.	5	0	5	6
Turnips (white)	per bunch	0	6	10	1
Onions	(Control price)				
Leeks	per bunch	0	4	0	8
Beet	..	0	1	0	9
Parsley	per float	0	7	1	6
Thyme	per doz. bunches	0	8	1	4
Spinach	per float	0	6	1	0
Artichokes	..	2	0	2	9

FLOWERS.					
Chrysanthemums	per bunch	1	0	2	0

J. S. T.

## 1918 New Volume IRISH GARDENING

THE new volume will sustain the old standard of excellence as to authoritative articles on both the practical and scientific side of gardening, but new features and new writers will be introduced during the course of the year. Every Irish gardener and every owner of any size garden in Ireland should obtain IRISH GARDENING (monthly) and read it! and having read it should preserve it for binding—it is worth it.

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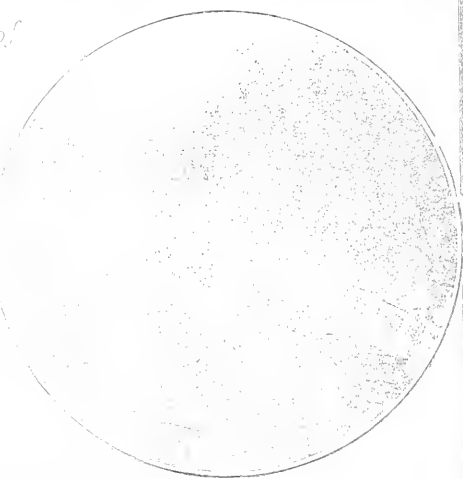
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## Royal Horticultural Society of Ireland

THE monthly meeting of the council was held at the Society's offices, 5 Molesworth street, Dublin, on the 8th ult. Present: Lady Alfredda Bourke, Sir Frederick W. Moore, and Messrs. R. Anderson, H. Bill, A. V. Montgomery, E. H. Walpole, E. D'Olier, H. E. Richardson, W. F. Gunn, J.P.; F. V. Westby, D.L.; G. M. Ross, M.A., with R. T. Harris, Esq., LL.D., presiding. Regrets at inability to attend were received from The Marquis of Headfort (President), H. P. Goodbody, D. L. Ramsay, J.P.; J. Wylie-Henderson, and George Watson. Recommendations of the schedule committee to hold three private exhibitions, for members and friends, in 1918—April 18th, July 11th, and 17th October—subject to the July and October shows being further considered after the holding of the April show, were approved and adopted, the schedule for the spring show as submitted being confirmed. The formation of a provisional committee to consider the question of Arboriculture raised by the President, to report to the Council, was approved.

## Irish Forestry Society

THE executive committee met at 5 Molesworth Street, Dublin, on the 7th ult. The following resolution, moved by Mr. R. J. Kelly, K.C., and seconded by Mr. W. F. Gunn, J.P., was passed unanimously, and copies ordered to be sent to various public officials, and to all the county councils in Ireland, viz.:—

"That in view of the extensive felling of timber going on at present in this country, and the

absence of replanting, the Government be urgently requested to immediately pass a regulation under provision of the Defence of the Realm Act providing that in all cases where trees in a wood or plantation are cut down, and the proceeds of sale or value of the timber cut exceeds £30, that either one-fourth of this sum, or an amount sufficient for replanting (whichever sum be the lesser) be paid over by the purchaser to the Department of Agriculture, to be invested and held in trust for the owner of the plantation until such time as he has replanted the felled area, or planted an equivalent area, to the satisfaction of the Department's Forestry Officer, whose certificate will entitle the owner to a refund of the sum held in trust by the Department."

We beg earnestly to point out to the Government that in our opinion unless some such steps are immediately taken the present attractive price for timber, combined with the general neglect of the duty of planting, will soon lead to the universal and disastrous disappearance of trees in Ireland.

## Catalogues.

SUTTON'S FARMERS' YEAR BOOK AND GRAZIER'S MANUAL. This is more than a catalogue, it is a work of reference of the highest importance at the present time. Food production is now of primary importance, and the farmer and grazier must save the situation by growing and producing every ounce of food possible to feed the population at home and the armies and navy abroad. This absolutely essential task will be facilitated by a careful perusal of The Farmers' Year Book. Messrs. Sutton have not only gained an inter-

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OTHER PUBLICATIONS. We have also received the January number of the *Northern Allotment Holders' Guide*, published at Newcastle-on-Tyne, and which has articles on the Art of Gardening, Manuring an Allotment, Potato Disease, &c. &c. Price 3d.

"ALLOTMENTS AND GARDENS". Published in London. This is a new monthly.

### Review.

## The Best Book on Gardening.\*

THE 2ND EDITION OF THE SINGLE-HANDED GARDENER

We are not inclined to agree with the writers as to this being the best book on gardening; it is not by a long way. There is far too much wandering away from the subject and too much grandiose phraseology. The whole of the practical directions given throughout the book could have been better and more clearly set forth with about half of the words used. A great many paragraphs might have been omitted entirely. A good many of the illustrations, too, are of doubtful utility. On page 11 an old-fashioned type of Dutch hoe is shown with the blade attached to an iron hoop which invariably breaks and never works cleanly. The best hoe is the Paxton or Acme with no hoop, and which does twice as much work in half the time, does it better, wears down till it is no broader than a knife-blade, and remains effective all the time. The directions for cultivating the soil and the various crops are on the whole fairly good, but suffer from too much verbosity. On page 48 we are recommended to "ridge" clay for the winter; this is an old-fashioned idea. Very stiff clays are better left with an unbroken surface during winter, as frost will penetrate further and rain and melting snow will pass away more readily than when the natural drainage is destroyed by digging. All through the book there is too much stress laid on abundance of farmyard manure. Where is it to come from? The writers admit the growing scarcity; they ought therefore to have emphasised far more strongly the necessity for deep cultivation in winter and spring and constant surface cultivation all summer. There is too much said about farmyard manure in all the books on Vegetables published since the outbreak of war.

On page 87, writing of Broccoli, we are told "all should be planted out on *well manured* and firm ground . . . and lower down: " Broccoli will do well if planted on the ground just cleared

of Strawberries, the latter being merely forked out and the soil left in its solid condition. The latter advice is correct, and on no account should Broccoli ever be planted on freshly-manured ground unless it is poorer than anything we have ever experienced. It is also recommended to manure moderately for Brussels Sprouts: we would add *very moderately*, otherwise the "sprouts" will be soft and flabby and the seedsman will be blamed. Sprouts want peddly trenched ground and a long season of growth, then the "sprouts" will be like bullets.

There are other chapters on Rock Gardens, Fruit, Flowers, the Greenhouse, &c., and no doubt the novice will find much help if he does not weary of reading before he finds what he wants.

## Dublin Wholesale Markets.

NEVER was the demand for green stuffs less than it was for the last month. Cabbages were sold for practically nothing, some loads being difficult to dispose of; some extra good loads of Savoys made a fairly good price. In the present mild and growing state of the weather, spring Cabbages are expected earlier than usual, but with the scarcity of salt meats and other influences, prospects are most discouraging. The fancy prices of former years look like becoming extinct. Broccoli sold particularly well. Other descrip-

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# Food from your garden

---

THIS year, more than ever, Food should be grown in the garden. Dig deeply, manure thoroughly, and plant your crops at the right time.

1. Plant early potatoes for use in July and August.
2. Plant Mid-season potatoes for August and September.
3. Plant Main crop potatoes to last the winter through.
4. Sow broad beans and peas—they will lessen the need for meat.
5. Sow parsnips and carrots for winter use. Heavy crops can be obtained by deep cultivation, and they will form a welcome change in the diet next winter.
6. Sow only small quantities of those Vegetables which need to be quickly used, and avoid waste by making successional sowings.
7. Make sure of a good crop of onions by sowing seed in well prepared and manured soil.
8. Have young plants for winter and spring Crops ready to plant as the potatoes are lifted.

KEEP the garden free from weeds, the soil loose and open, and watch for the first signs of attack by insects or disease.

*Make the most of all the daylight hours.*

**GROW FOOD IN YOUR**  
**GARDEN THIS YEAR**

Department of Agriculture and Technical Instruction, Dublin.

Onions and green beans were very plentiful, and of excellent quality. I have to keep within my compass, and am mostly held to stock prices. Swedish Turnips are not to be had at any price like Continental ones. There was a good supply of Salsify, and Rhubarb, and other early stuff offered, which sold at fairly reasonable prices.

Home-grown Apples are now beginning to get scarce. Bramley's Seedling holding sway and commanding excellent returns for good quality lots. Dessert Apples for this time of year are very scarce, and are being bought up.

A feature of Irish garden markets was the heavy use of early spring flowers. Narcissi, Anemones and Violets were fairly plentiful, and prices were reasonable enough.

The following is a price list for the month:

	Unit	From	To
		s. d.	s. d.
Apples	per barrel	35 0	60 0
"	per bushel box	8 0	15 0
"	per tray	3 0	8 0
" small	per float	2 6	3 0

#### VEGETABLES.

Cabbages	per load	1 0	15 0
" Savoy	"	6 0	15 0
Broccoli	per basket	3 0	6 0
Celery	per bunch	1 6	3 0
B. Sprouts	per float	1 0	2 0
Parasips	per doz. bunches	1 1	1 8
"	per cwt.	1 6	6 0
Carrots	per doz. bunches	0 10	1 3
Turnips white	per bundle	0 6	1 0
Do.	"	0 1	1 0
Do.	"	0 6	1 0
Thyme	per doz. bunches	0 6	1 2
Archiegoes	per float	2 0	3 0
Scallions	per bunch	0 9	1 0
Rhubarb	per doz. bunches	2 0	2 6
Lettuce	per dozen	0 3	0 6

#### FLOWERS.

Freshia	per bunch	1 0	1 6
Arum Lilies	each	0 1	0 6
Chrysanthemums	per bunch	0 6	0 8
Violets	per doz. bunches	1 0	1 9
Narcissi	per bunch	0 6	0 9

J. S. T.

# 1918

## New Volume

# IRISH GARDENING

THE new volume will sustain the old standard of excellence as to authoritative articles on both the practical and scientific side of gardening, but new features and new writers will be introduced during the course of the year. Every Irish gardener and every owner of any size garden in Ireland should obtain IRISH GARDENING (monthly) and read it; and having read it should preserve it for binding—it is worth it.

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other valuable and scarce seeds, and that they will  
be pleased to answer any enquiries from members  
of the Seed Trade on behalf of Allotment Associa-  
tions.

**KELWAY & SON.**

Wholesale Seed Growers and Merchants,  
**LANGPORT, SOMERSET.**

## DAISY HILL NURSERY, NEWRY

is the most interesting Nursery in the  
Country, and contains the most com-  
plete Collections of Shrubs and Plants  
extant.  
**T. SMITH**

## AUTO-SHREDS

Is CERTAIN  
DEATH to  
Leaf-mining Maggots, Mealy Bug and  
all Pests infesting plants under glass, &c.  
Simple to use, no apparatus required. In  
Boxes to fumigate 1,000 cubic feet, 6d.;  
No. 4 Packet 2,500 cubic feet, 1/- each;  
for tender and ordinary plants, 10,000  
cubic feet, 3s. 6d. each. Obtained of  
Seedsmen and Florists; if unobtainable  
apply direct—

**W. DARLINGTON & SONS,**  
Ltd.

Wholesale Horticultural Sundriesmen,  
HACKNEY, LONDON, E. 8.

Trade Terms and Catalogue of Sundries upon receipt of businesscard



Dicks

LAWN

Produces a Rich, Green, Turf, and is composed of dwarf evergreen grasses. 1, 6 per lb.; 16 6 per stone

THE

LAWN

¶ The lightest and most durable moderate-priced Mower in the market, British make, and guaranteed to give satisfaction.

10-inch, 50/-; 12-inch, 60/-; 14-inch, 70/-; 16-inch, 80/-

Alex. Dickson & Sons, Ltd.  
HAWLMARK, 61 Dawson St., DUBLIN

Medal by Anglo-American Exhibition

Corn. Awarded by Royal Horticultural Society.

"ACME"  
POWDER

WEED KILLER

For Destroying Weeds, Moss, &c., on  
Garden Walks, Drives, Roads, &c.

LIQUID WEED KILLER.—Send for particulars.

ARSENATE OF LEAD PASTE—Spray your fruit trees. For destroying all leaf-eating insects, caterpillars, etc. 2/- per lb.

LAWN SAND—Marvellous killing effect on weeds, but fertilises the grass. 7lb. 2 3; 14lb. 4 3; carriage paid on 56lb., 16/-

"Fumigite."—For destroying all ground vermin. To be dug into the soil. 14lb. 3 8; 28lb. 7/-; 56lb. 12 6; 21/- per cwt., carriage paid.

Extract of Quassia.—Pint. 1 6; postage 4d.; one gallon 5/-.

Compound Quassia-Tobacco Insecticide—Pint 1 6, postage 4d.

ACME CHEMICAL CO., LTD.  
TONBRIDGE, KENT, and RIVER ST., BOLTON, LANCASHIRE

Sold by Messrs. HAYES, GUNYGRAM & ROBINSON, LTD., Grafton St., and Messrs. DUFFY, MONROE & SONS, 57 and 58 Dawson St., Dublin.

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GLASS

Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes.

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"BROMAS" for general household and estate purposes

"VALENTINE" for hay barns, &c., doubles the life of galvanized iron.

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"PETREX" for conservatories, does not flake off.

Plastic Repair Compound for repairing leaky roofs and cracked glass, also for General Repair Work.

BOILERS

and heating plants, newest Types. Please ask for lists.

GREENHOUSES

And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

BROOKS THOMAS & CO.  
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BUILDERS' PROVIDERS, Sackville Place,

Dublin

No.	Name	No.	Name
1	The Warble Fly.	54	Calf Meals.
2	The Use and Purchase of Feeding Stuffs	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight	58	Sprouting Seed Potatoes.
6	Charlock (or Preshaugh) Spraying	59	Testing of Farm Seeds.
7	Fluke in Sheep.	60	The Packing of Butter.
8	Timothy Meadows.	61	Field Experiments—Wheat.
9	The Turnip Fly.	62	The Management of Dairy Cows.
10	Wireworms.	63	"Redwater" or "Blood Murrain" in Cattle.
11	Prevention of White Scour in Calves.	64	Varities of Fruit suitable for cultivation in Ireland.
12	Liquid Manure.	65	Forestry: The Planting of Waste Lands.
13	Contagious Abortion in Cattle.	66	Forestry: The Proper Method of Planting Forest Trees.
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19	Early Potato Growing.	72	Forestry: Felling and Selling Timber.
20	Calf Rearing.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Slag.	75	Barley Sowing.
23	Dishorning Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Bulls.	77	Scour and Wasting in Young Cattle.
25	Fowl Cholera.	78	Home Dairymaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter.	81	Home Culture on Small Farms.
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35	The Lining of Land.	88	The Home Bottling of Fruit.
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37	" " Meadow Hay.	90	The Advantages of Early Ploughing.
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39	" " Mangolds.	92	Home Preservation of Eggs.
40	" " Oats.	93	Marketing of Wild Fruits.
41	" " Turnips.	94	Cost of Forest Planting.
42	Permanent Pasture Grasses.	95	Store Cattle or Butter, Bacon and Eggs.
43	The Rearing and Management of Chickens	96	Packing Eggs for Hatching.
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## SPECIAL DEL. NOTES.

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3	Eggs and Poultry.	13	Digging and Storing Potatoes.
4	The War and Food Production.	14	Soil and Ammonia.
5	Spring Wheat.	15	Wax Seed for 1918 Sowing.
6	Winter Manuring Grass Lands.	16	Purchase of Basic Slag.
7	Feeding of Pigs—Use of Boiled Swedes.	17	Use of Superphosphate.
8	Destruction of Farm Pests.	18	Compound Fertilisers.
9	Grain Crops.	19	Use of Manure.

### Treatment of Allotments for the Growing of Vegetables.

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

By Appointment to



His Majesty the King.

# MACKENZIE & MONCUR, LTD.

## ECTHOUSE BUILDERS

HEATING, VENTILATING AND ELECTRICAL ENGINEERS AND IRONFOUNDERS.

*Although we are at present employed largely on National War Service, we are still in a position to carry out private work in the way of repairs and renewals. We ask our patrons to give us as much time as possible for the carrying out of such work, so that we may arrange to have it done without reducing our War Service output.*

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# W. RICHARDSON & Co.

SPECIALISTS IN THE  
MANUFACTURE OF ALL KINDS OF

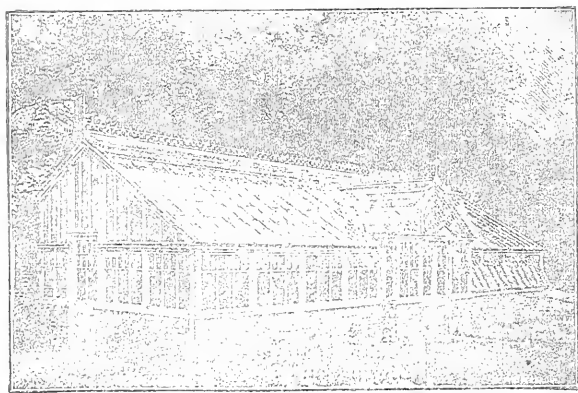
## HORTICULTURAL BUILDINGS,

ALSO

## HEATING ENGINEERS

PLANS AND ESTIMATES prepared free  
of cost.

LARGE CATALOGUE of photographic  
views of Horticultural Buildings free  
on application.



# DARLINGTON

(LONDON OFFICE: Albert Mansions, 92 Victoria St., S.W. 1.)

# WAR TIME SEEDS

## FOR YOUR GARDEN

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GARDEN SEEDS, SEED POTATOES, &c.

GET OUR SPECIAL LIST

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**EDMONDSON BROS.**

**10 DAME STREET—DUBLIN**

### Grow Beans to dry for Winter Food

*"There is no produce of the vegetable kingdom so nutritious"*

THE LATE SIR HENRY THOMPSON

Sent post free on application, our pamphlet "FOOD FOR WINTER USE," containing startling facts about food values. Why and What to Grow, and How to Grow and Dry It. A special list of the most suitable varieties, including the

**Dutch Brown Bean**, dwarf, good cropper, fine flavour . . . at 1/3 packet

**Phenomenal Climbing White Haricot**, very productive . . . at 1/- packet

**African Brown**, or African-grown Dutch Brown . . . at 9d. packet

**Green Kidney**, or Dwarf Green Haricot, dry beans, delicate green when cooked at 9d. packet

**Rice White**, dainty little bean . . . at 9d. packet

**Canterbury White**, grand bush, heavy cropping white bean for winter use . . . at 1/- packet

**Royal Wax**, yellow podded, good for drying at 1/- packet

AND OTHERS.

SOW APRIL OR MAY.

*3d. extra must be enclosed for postage unless three or more packets are ordered.*

### THE WINTER FOOD COLLECTION.

Five Packets, each containing sufficient seed for a double row 25 yards long, four dwarfs and one climbing, including **Dutch Brown**, **Phenomenal Haricot**, **African Brown**, and two others, for 5/-, post free.

**Peas for Winter Food**, 1 ft. or 2½ ft. high . . . at 1/- packet

**R. WALLACE & CO., Ltd., Seed Merchants, COLCHESTER, ESSEX**

## Food for Next Winter.

It seems certain that next winter will see the great test of whether we can provide ourselves with food, or whether rations must be further reduced. Potatoes and Wheat are being grown on a greatly increased scale, and the next six months will be anxious ones for the farmer and the gardener. Assuming a bumper crop of both these essential commodities there still remains the question of meat, which is not likely to be either cheap or plentiful. It is possible, fortunately, to find a substitute for meat, and one that is not merely a "make up" but a real substitute, with even more nourishing properties than meat. Elsewhere in our columns readers will find a note on Haricot Beans, and it is to Beans we refer as the substitute for meat. In our advertisement pages it will be seen that Messrs. R. Wallace & Co., of Colchester, have taken up this matter thoroughly, and have arranged for a supply of the best varieties for winter use. We have before us an

## BEGONIAS

SEED 2/6 and  
5/- per packet

for Exhibition, Greenhouse, Bedding, Hanging Baskets, &c. Awarded 46 Gold Medals. Illustrated Catalogue free.

## DELPHINIUMS

from our unsurpassed Gold Medal Collection, choice named varieties in strong ground roots, 12/-, 15/-, 20/-, 25/- & 30/- per doz.

### OTHER SPECIALITIES

Carnations, Cyclamen, Gloxinias, Polyanthus, Blue Primrose, Violets, &c.

BLACKMORE & LANGDON, BATH.

## Destroying Weeds.

From our garden and park walks, avenues, &c., will be producing their spring crop of weeds, and the unfortunate aspect of the matter is that all available labour is required for other work than scuffling these walks. However, science has come to the rescue, and has given us weed-killing preparations, which reduce to a minimum the labour necessary to destroy the weeds. There is no doubt that of these preparations Smith's "Perfect" Weed Killer (Liquid and Powder) holds a premier place, and the Irish Agent (D. M. Watson, 61 South Great George's Street, Dublin) finds the demand still increasing. This is mainly the result of satisfied users recommending Smith's Weed Killer to their friends. Another thing which has stood to Smith's Weed Killer is the fact that the solution is a much stronger one than many on the market, and that even when the prices of the ingredients advanced considerably (as they did a year or two ago) the full original strength has always been maintained. Prices, &c., are given on page xliii of this issue, and it should be remembered that Mr. Watson also makes a speciality of all kinds of Insecticides, Fungicides, Vaporising Composts, Fertilizers, &c. In fact he has a title claim to be considered the only specialist in Ireland in Horticultural Chemicals.

## BOLTON'S

THE LEADING HOUSE FOR

## SWEET PEAS

Awarded 184 Gold Medals

Catalogues Post Free :: ::

ROBERT BOLTON, F.R.H.S.

THE SWEET PEA SPECIALIST  
HAVERHILL

## Potato Spraying

DON'T take any risks with your potato crop this season. Apply for 23 page Government Booklet on Potato Disease and its Prevention, together with catalogue of FOUR OAKS Potato Spraying Machines, post free on application to

The Four Oaks Spraying Machine Co.

FOUR OAKS WORKS

SUTTON COLDFIELD, BIRMINGHAM

Machines in stock ready for immediate delivery

# KATAKILLA

NON-POISONOUS

## POWDER INSECTICIDE WASH

DESTROYS APHIDS, BLACK & GREEN LEECH, CATERPILLARS, ETC.

In Cartons to make 10 gallons of Wash,	1/6	of Nurserymen
" " " " 50 " " "	4/6	and Seedsmen

McDOUGALL BROS LTD PORT ST MANCHESTER



Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

excellent pamphlet issued by this enterprising firm in which are set forth the relative food values of Beans, Beef and Potatoes. Beans win easily for food value, a fact long recognised by Continental nations. Messrs. Wallace have a most complete list of varieties, both dwarf and climbing, and we counsel our readers to study this advertisement and make sure of a supply of this wholesome, nourishing and appetising food for next winter when, come what may, there will be world wide competition for food.

## Dublin Wholesale Markets.

At the beginning of last month Cabbages were very plentiful, and hard to sell at any price, but towards the end of the month they were not so plentiful and prices rose a little. Still the demand is below the average of other years. Cauliflowers were fairly well supplied, and good quality lots were bringing good prices. Brussels Sprouts are nearly over and are selling for average prices. Rhubarb is making a marvellously good sale considering all against it in the scarcity of sugar. "Scallions" are being well supplied this spring, and prices are very good. Seakale of good quality is becoming plentiful in the market and selling at reasonable prices. Onions were very plentiful towards the end of the month, both Spanish, French and Egyptian being freely offered. Irish Onions are very scarce. Fruit is very scarce.

The supply of flowers is increasing and prices are fairly reasonable.

		FRUIT		From		To	
				s. d.		s. d.	
Apples	per barrel			50	0	60	0
"	per bushel box			20	0	30	0
"	per tray			0		12	0
VEGETABLES.							
Cabbages	per load			10	0	25	0
" Savoy	"			10	0	28	0
Broccoli	per flasket			5	0	8	0
Celery	per bunch			1	6	2	6
B. Sprouts	per float			1	6	2	0
Parsnips	per doz. bunches			1	4	1	8
"	per cwt.			4	0	1	6
Carrots	per doz. bunches			1	2	1	4
Turnips (white)	per bundle			0	4	0	7
Leeks	"			0	3	0	7
Beet	"			0	8	1	3
Thyme	per doz. bunches			1	0	1	2
Artichokes	per float			2	0	2	6
Scallions	per bunch			0	10	1	0
Rhubarb	per doz. bunches			2	0	2	6
Lettuce	per dozen			0	4	0	8
Onions	per float			6	0	7	6
Seakale	per doz. crowns			2	0	2	6
FLOWERS.							
Fressia	per bunch			1	0	1	6
Arum Lilies	each			0	4	0	6
Violets	per doz. bunches			1	0	1	9
Narcissi	per bunch			0	4	0	8
Wallflowers	per bunch			0	6	0	8

J. S. T.

## Smith's "Perfect" Patent Powder

# WEED KILLER

**MARVELLOUS INVENTION** **MOST EFFECTIVE**  
Nothing like it ever seen before. Soluble in Cold Water. All Tins Free. No Return Empties

### TESTIMONY

ENNISCORTHY.

The Powder Weed Killer  
I got from you last month  
is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the  
only one I ever tried that  
is any use. Yours never  
fails.—L. CRELAGE CRELAGE  
HOWARD.

		PRICES —	
1 Tin to make	25 gallons	£0 5 0	Post 8d.
4 Tins	100 "	1 0 0	"
8 Tins	200 "	1 19 6	Box 2/-
12 Tins	300 "	2 18 0	Box 2/6
20 Tins	500 "	4 12 6	Box 3/6
40 Tins	1000 "	9 0 0	Boxes, 7/-

4 Tins when mixed with water will cover an area of about 400 sq. yards.  
ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN  
Eight Tins sent Carriage Paid to any Station in Ireland.

## "Perfect" Liquid Weed Killer

	PRICES	One Gallon to make 25 Gallons for use.	
1 gallon	£0 5 0	6 gallons	£1 9 6
2 gallons	0 10 0	8 "	1 19 6
3 "	0 15 0	10 "	2 3 0
4 "	1 0 0	12 "	2 18 0
5 "	1 5 0	16 gallons	£3 15 6
		18 "	4 5 0
		20 "	4 12 6
		40 "	9 0 0

Carriage paid on eight gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards  
Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/6; 2 gal., 2/6; 3 gal., 3/-; 4 gal., 4/-; 5 gal., 4/8; 6 gal., 5/6; 8 gal., 7/-; 10 gal., 9/-  
Casks:—2 to 12 gallons, 5/-; 16 to 40 gallons, 7/6. Our preparations are all guaranteed full strength.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous. Sole Proprietors, MARK SMITH, Ltd.

D. M. WATSON, M.P.S., Horticultural Chemist 61 South Great George's Street  
DUBLIN

Telephone, 1971

Insecticides, Fungicides, Fumigants, Spraying Machines, &amp;c.

# Food from your garden

**T**HIS year, more than ever, Food should be grown in the garden. Dig deeply, manure thoroughly, and plant your crops at the right time.

1. Plant early potatoes for use in July and August.
2. Plant Mid-season potatoes for August and September.
3. Plant Main crop potatoes to last the winter through.
4. Sow broad beans and peas—they will lessen the need for meat.
5. Sow parsnips and carrots for winter use. Heavy crops can be obtained by deep cultivation and they will form a welcome change in the diet next winter.
6. Sow only small quantities of those Vegetables which need to be quickly used and avoid waste by making successional sowings.
7. Make sure of a good crop of onions by sowing seed in well prepared and manured soil.
8. Have young plants for winter and spring Crops ready to plant as the potatoes are lifted.

**K**EEP the garden free from weeds, the soil loose and open, and watch for the first signs of attack by insects or disease.

*Make the most of all the daylight hours.*

**GROW FOOD IN YOUR**  
**GARDEN THIS YEAR**

Department of Agriculture and Technical Instruction, Dublin.



66-68, PORT STREET, MANCHESTER

# NITRATE OF SODA IN THE GARDEN

Is invaluable as an aid to the Gardener, in the successful cultivation of Fruit, Flowers, and Vegetables : :

By its quick action on vegetation, Maturity is hastened, and vegetables are improved in flavour, the tissue being tender, crisp, and less fibrous. This feature is particularly noticeable in Lettuce, Cabbage, and the whole of the Brassica tribe of plants :: :: :: In application, "little and often" is productive of the best results. If used in conjunction with phosphates and potash, half the usual quantity of dung need only be used.

*Full particulars and pamphlets on "Manuring in the Garden" will be sent free on application*

THE CHILEAN NITRATE COMMITTEE  
25 CHICHESTER STREET ————— BELFAST

ESTABLISHED 1832. TELEPHONE 3351 (Private Branch Exchange). TELEGRAMS—"BROOKS," DUBLIN

## HORTICULTURAL GLASS, PAINTS, &c.

- GLASS . . . Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes.
- PAINT . . . "BROMAS" for general household and estate purposes  
"VALENTINE" for hay barns, &c., doubles the life of galvanized iron.  
"PETREX" for conservatories, does not flake off.
- "DEAUTITE" . . . Plastic Repair Compound for repairing leaky roofs and cracked glass, also for General Repair Work.
- BOILERS . . . and heating plants, newest Types. Please ask for lists.
- GREENHOUSES And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

**BROOKS** THOMAS & CO.  
LTD.

BUILDERS' PROVIDERS, Sackville Place,

**Dublin**

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6	Winter Manuring Grass Lands.	16	Prices of Superphosphate.
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ESTD 1871



HIS MAJESTY THE KING.

# MAGILL & MONGER, LTD.

## HOUSE BUILDERS

HEATING, VENTILATING AND ELECTRICAL ENGINEERS AND IRONFOUNDERS.

Although we are at present employed largely on National War Service, we are still in a position to carry out private work in the way of repairs and alterations. We ask our patrons to give us as much notice as possible for the carrying out of such work, so that we may arrange to have it done without interfering with our War Service output.

EDINBURGH—Registered Office and Works: BALCARRES STREET,  
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# W. RICHARDSON & Co.

SPECIALISTS IN THE  
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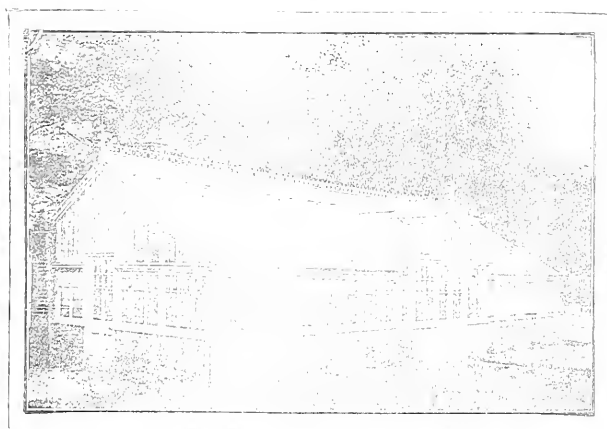
## HORTICULTURAL BUILDINGS,

ALSO

## HEATING ENGINEERS

PLANS AND ESTIMATES prepared free  
of cost.

LARGE CATALOGUE of photographic  
views of Horticultural Buildings free  
on application.



# DARLINGTON

(LONDON OFFICE: Albert Mansions, 92 Victoria St., S.W. 1.)



## Show Fixtures 1918.

- Aug. 10 Terenure and Districts Horticultural Society. Hon. Sec., E. Carroll, 1 Rostrevor Terrace, Rathgar.
- .. 11 Kingstown Horticultural Society. People's Park, Kingstown. Hon. Sec., R. Macdonald, M.A., Technical School, Kingstown.

### SAVE YOUR FRUIT AND FLOWERS FROM INSECT PESTS BY USING THE COOPER Horticultural Remedies

#### + COOPER'S NICOTINE (V2) SUMMER FLUID FOR SUMMER SPRAYING

A Nicotine Preparation for Apple-Sucker, Green-Fly, &c., on FRUIT, ROSE and other TREES.

Sold in Qt. Tins: 1, 2, 5, and 10 Gall. Drums;  
and in 20 and 40 Gall. Casks.

#### + Cooper's MILDEW (V2K) FLUID FOR ROSE, STRAWBERRY and other MILDEWS also STRAWBERRY LEAF SPOT.

Sold in Qt. Tins: 1, 2, 5, and 10 Gall. Drums;  
and in 40 Gall. Casks.

#### + COOPER'S ARSENATE of LEAD PASTE FOR THE DESTRUCTION OF THE CODLING MOTH AND LEAF-EATING CATERpillars.

Mixes well, adheres well, remains a long time in suspension, coats foliage uniformly, and does not scorch when properly prepared.

Sold in 1, 5, and 10 lb. Tins; and in 50 and 100 lb. Kegs.

#### + COOPER'S FUMIGATING FLUID

A re-inforced NICOTINE PREPARATION for  
Destroying INSECT PESTS in Glass-houses.

Sold in Bottles in 5 sizes; and in Pint, Qt., & ½ Gall. Tins.

#### + Cooper's WEEDICIDE

After trial—Received the "Commended" award  
of the Royal Horticultural Society.

Kills Weeds on Garden Paths and Gravelled Spaces.

Sold in Qt. Tins: ½, 1, 2, and 5 Gall. Drums, and in 20 and 40 Gall. Casks.

1 gall. makes 100 galls. of effective Weedkiller

Latest Prices on application

OF AGENTS EVERYWHERE

Sole Manufacturers:

WILLIAM COOPER & NEPHEWS, Berkhamsstead.

## LEARN MORE ABOUT

### "ABOL" INSECTICIDE

The Great Non-Poisonous Garden Wash which is not only Insecticidal but also Fungicidal. It is a happy combination of all that's good in horticultural Washes and it holds a predominant position in the Horticultural World. You should learn of the pleasing results obtained by its use. Write for our free Treatise, useful to all desirous of increasing the output of their plot. Better still, buy a tin of "Abol" now, and write for the Treatise as well! "ABOL" in tins: 1/2 lb., 1/4, 2/10, 4/6, 8/4, and larger drums.



### "ABOL" FERTILIZER The Wonderful Plant Food.

Without doubt the most sure and economical means of securing crops in abundance. Tins, 7d., 1/-; 7 lbs., 3/-; 14 lbs., 5/-; 28 lbs., 8/-; 56 lbs., 12/6 (in 28 lb. bags).

"ABOL" Specialities are obtainable of Seedsmen, Nurserymen, Ironmongers and Stores. If you have any difficulty write. E. A. White, Ltd., 57 Belting, Paddock Wood, Kent.

Awarded Gold Medal by Anglo-American Exhibition

Commended by Royal Horticultural Society.

## "ACME" POWDER WEED KILLER

For Destroying Weeds, Moss, &c., on  
Garden Walks, Drives, Roads, &c.

LIQUID WEED KILLER.—Send for particulars.

ARSENATE OF LEAD PASTE—Spray your fruit trees. For destroying all leaf-eating insects, caterpillars, etc. 2/- per lb.

LAWN SAND—Marvellous killing effect on weeds, but fertilises the grass. 7lb. 2/3; 14lb. 4/3; carriage paid on 56lb., 16/-

"Fumerite."—For destroying all ground vermin. To be dug into the soil. 14lb., 3/9; 28lb. 7/-; 56lb., 12/6; 21/- per cwt., carriage paid.

Extract of Quassia.—Pint. 1/6; postage 4d.; one gallon 5/-

Compound Quassia-Tobacco Insecticide.—Pint 1/6, postage 4d

ACME CHEMICAL CO., LTD.

TONBRIDGE, KENT, and RIVER ST., BOLTON, LANCASHIRE

Sold by MESSRS. HAYES, CONAGHER & ROBINSON, LTD., Grafton St., and MESSRS. DELMONDO & SONS, 37 and 58 DAWSON ST., Dublin.

## Royal Horticultural Society of Ireland.

At the monthly meeting of the Council held on the 12th ult., Dr. Harris, and subsequently the Marquis of Headfort, presiding, the conclusion was arrived at with much regret that the private exhibition fixed for April 18th could not be held, the early season having practically put Daffodils over, the entries available being insufficient.

It was decided that the Schedule Committee be directed to draft a Schedule for the summer show, which it is proposed to hold on July 11th, for submitting to the next Council meeting, May 10th.

A letter was read from Viscount Powerscourt offering the Society, at a nominal rent, the site for a garden at Enniskerry, consideration of Lord Powerscourt's generous offer being postponed until after the war.

At a meeting of the Schedule Committee on the 17th ult., a collection of Daffodils from Mr. J. Lionel Richardson, Prospect House, Waterford, was recommended for a First Class Certificate, a vote of thanks and a V.H.C. being accorded by the committee. This fine and varied collection consisted of the following, viz.:—Maggie May, Ayalanta, Hebe, Cleopatra, Great Warley, Avalanche, Herod, Maud West, White Knight, Diogenes, Radian, Red Chief, Cavalier, Dosoris, Muriel, Semiramis, Bernardino, Victory, White-well, Incognita, Joan of Arc, Lady M. Boscawen and Ruby.

THE third annual meeting of the Irish Branch of the Vegetable Products' Committee for supplying Fruit and Vegetables to the Navy was held at the Royal Horticultural Society's Offices, 5 Molesworth Street, Dublin, on the 10th ult., the Marquis of Headfort, President of the Branch, presiding. Sir Frederick W. Moore, Hon. Secretary, gave an exhaustive report of the year's working, and Mr. D. L. Ramsay, as Hon. Treasurer, an analysis of the receipts and expenditure. The Lord Chancellor and the Rt. Hon. Mr. Justice Ross, P.C., respectively, moved and seconded the adoption of the report in able addresses as to the work done. Commander Archdale, R.N., and the Rev. C. B. Phipps, Chaplain of the Kingstown Base, testified as to the men's appreciation of the work being done for them, and the necessity and urgency of such work.

## Rhododendrons from Ballinacor.

Among the many spring flowering shrubs few can beat the Rhododendron. It will grow with very little trouble on any poor soil free from lime. As to the few spruces sent to the Editor's Table early in February they were cut at random from a group of eighteen to twenty large bushes at Ballinacor. The bushes from which the flowers were cut are growing on a steep dry bank consisting of poor soil varying in depth from twelve to eighteen inches, with a rock bottom, an open aspect, facing E. N. E.

The writer has often noticed that Rhododendrons growing on high poor ground are the first to flower, and nearly always more profusely than those which are given richer treatment, viz.—loam and peat well incorporated with rotten dung and planted in the well sheltered and the damp situations.—A. S.

[The specimens sent were remarkably fine, testifying to the vigour and health of the plants at Ballinacor; large handsome trusses and leathery, vigorous leaves. They were all apparently *R. nobilimum*, or other hybrids of *R. arboreum*, varying a little in the shade of pink. The group must have made a beautiful display so early in the season, and is a testimony to the possibilities of our Irish gardens, given reasonable cultivation, in districts free from lime. Specimens of flowers or other garden plants for inspection and comment will be welcome at any time.—Ed.]

## The Physical Elements of our Soil.

GREATER production is a slogan we would do well to bear in mind, not only in these war times, but always and all the time. Just now the necessity is still more apparent due to the call of our man and to other unnatural causes. In times of peace prepare for war, but peace or war, all wealth is derived from the soil, and the prosperity of our country is based on our individual and collective efforts in conjunction with a knowledge of our own particular soil and its adaptability to the crops we wish to grow. That knowledge is perhaps the fundamental basis of our success or failure, in our garden hobby or our profession as gardeners and agriculturists. *B. C. Fruit and Farm Magazine.*

## BEGONIAS SEED 2/6 and 5/- per packet

for Exhibition, Greenhouse, Bedding, Hanging Baskets, &c. Awarded 46 Gold Medals. Illustrated Catalogue free.

## DELPHINIUMS

from our unsurpassed Gold Medal Collection, choice named varieties in strong ground roots, 12/-, 15/-, 20/-, 25/- & 30/- per doz.

OTHER SPECIALITIES

Carnations, Cyclamen, Gloxinias, Polyanthus, Blue Primrose, Violets, &c.

BLACKMORE & LANGDON, BATH.

## Potato Spraying

DON'T take any risks with your potato crop this season. Apply for 23 page Government Booklet on Potato Disease and its Prevention, together with catalogue of FOUR OAKS Potato Spraying Machines. post free on application to

The Four Oaks Spraying Machine Co.

FOUR OAKS WORKS

SUTTON COLDFIELD, BIRMINGHAM

Machines in stock ready for immediate delivery

# SLUGS!



## "SANITAS" Powder

INSURES YOUR CROPS

Against SLUGS, WORMS, RATS, MICE, CATS and BIRDS.

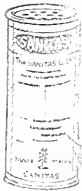
(Largest and Simplest Use)

6d. and 1s. Tins and 15s. per Cwt. (f.o.r. London) of all Chemists, Stores and Nurserymen.

THE SANITAS CO. LTD.,

LIMEHOUSE, LONDON E. 14.

Awarded Medal, Royal Horticultural Exhibition, 1911.



**SANKEY'S** TRADE MARK **GARDEN POTS**  
 the BEST and CHEAPEST  
 Same quality as the famous "The Old English" garden pots, but at a lower price. The pots are made of the best quality of ware and are of various sizes and shapes. They are suitable for all kinds of plants and flowers. The pots are made in England and are of the highest quality.  
 SPECIAL POTS of all descriptions. 1/6 each. 2/6 each. 3/6 each. 4/6 each. 5/6 each. 6/6 each. 7/6 each. 8/6 each. 9/6 each. 10/6 each. 11/6 each. 12/6 each. 13/6 each. 14/6 each. 15/6 each. 16/6 each. 17/6 each. 18/6 each. 19/6 each. 20/6 each. 21/6 each. 22/6 each. 23/6 each. 24/6 each. 25/6 each. 26/6 each. 27/6 each. 28/6 each. 29/6 each. 30/6 each. 31/6 each. 32/6 each. 33/6 each. 34/6 each. 35/6 each. 36/6 each. 37/6 each. 38/6 each. 39/6 each. 40/6 each. 41/6 each. 42/6 each. 43/6 each. 44/6 each. 45/6 each. 46/6 each. 47/6 each. 48/6 each. 49/6 each. 50/6 each. 51/6 each. 52/6 each. 53/6 each. 54/6 each. 55/6 each. 56/6 each. 57/6 each. 58/6 each. 59/6 each. 60/6 each. 61/6 each. 62/6 each. 63/6 each. 64/6 each. 65/6 each. 66/6 each. 67/6 each. 68/6 each. 69/6 each. 70/6 each. 71/6 each. 72/6 each. 73/6 each. 74/6 each. 75/6 each. 76/6 each. 77/6 each. 78/6 each. 79/6 each. 80/6 each. 81/6 each. 82/6 each. 83/6 each. 84/6 each. 85/6 each. 86/6 each. 87/6 each. 88/6 each. 89/6 each. 90/6 each. 91/6 each. 92/6 each. 93/6 each. 94/6 each. 95/6 each. 96/6 each. 97/6 each. 98/6 each. 99/6 each. 100/6 each.  
**RICHARD SANKEY & SON, LTD.**  
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## VINE PLANT & VEGETABLE MANURE

Unrivalled for all Garden Crops.

So Compounded as to combine Stimulating with lasting effects. Produces vigorous, healthy, and fruitful growth. Also

**THOMSON'S Special Topdressing Manure.**

An Excellent Stimulant.

PRICES

Note—Quantities of 56lbs. and over are supplied in 28lb. bags.

Vine, Plant, and Vegetable Manure.—

112 lbs., 24/-; 56 lbs., 13/6; 28 lbs.,

7/6; 14 lbs., 4/6; 7 lbs., 2/6; Tins, 2/6,

1/-, and 1/6d. Carriage paid on 56 lbs.

and up anywhere in United Kingdom.

Special Topdressing Manure—56 lbs.

20/-; 28 lbs., 11/-; 14 lbs., 6/-; 7 lbs.,

3/6; Tins, 1/- Carriage paid on 28 lb.

and up anywhere in United Kingdom. Also

Thomson's Syptic, 3/- and 1/6

per bottle.

Sold for Horticultural purposes by all Seedsmen

and Nurserymen, or from

SOLE MAKERS

W. THOMSON & SONS LTD. CLOVENFORDS, N.B.

## Ask Your Nurseryman or Seedsman

For the following Well Known and Highly Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY

## "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half-gallon, 5/-; gallon, 8/9; five gallons, 30/-; ten gallons, 54/-; 1 gallon sufficient for 80 gallons of water.

## STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers

Analysis on Application

Sold in Tins, 7½d., 13.3/-, 6/6 each; and in Kegs, well secured, to prevent loss through exposure, 28 lbs., 10 6; 56 lbs., 18/-; 112 lbs., 30/-

For Fumigating in Greenhouses.

"LETHORION"

## IMPROVED METAL CONES

Registered No. 62,587

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 7½d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price 10d. each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/3 each.

## FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 13, 3/-, and 6/- each; Kegs, ½ cwt., 10/-; 1 cwt., 18/-; 1 cwt., 34/-

ELLIOTT'S

## "SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,629.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/3 for 100 feet of glass, and 3/- each for 300 feet.

Sole Manufacturers:

## CORRY & Co., Ltd., LONDON

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

## Dublin Wholesale Markets.

By J. S. T.

THE average deliveries of stuff for last month showed some shortening in supplies, and although the demand could not be described as active, still the market was more easily sold up, with a corresponding steady effect in values.

New season's York Cabbages were supplied very moderately, but this was due to the harsh weather which prevailed in April. During the early part of the month, both Savoy and York Cabbages rose in price, owing to the Easter holiday interruption, but since then they have not sold so well. There was also a fairly good shipping inquiry for certain commodities, especially Broccoli and Scallions, most of which went to Scotland. Rhubarb continued to sell marvellously well, notwithstanding the sugar difficulties. Best Broccoli and Scallions were making very satisfactory rates, but supplies up to the end of the month were yet moderate.

The supply of Apples is practically over, only a few barrels to be seen in the early part of the month, which sold considerably well. A few punnets of forced Strawberries were a feature of the markets last month.

Flowers continued to be well supplied and were rapidly bought up at fairly reasonable prices.

The following is a price list for the month:—

		From		To	
		s.	d.	s.	d.
Apples	per barrel	50	0	63	0
"	per bushel box	20	0	30	0
Strawberries	per punnet	10	0	12	0
VEGETABLES.					
Cabbages (York)	per load	10	0	28	0
" (Savoy)	"	8	0	11	0
Broccoli					
First quality	per flasket	6	6	8	0
Second quality	"	1	9	3	3
Celery	per bunch	1	1	1	2
Scallions	"	0	9	1	0
Leeks	"	0	2	0	7
Lettuce	per doz.	0	6	0	9
Scakale	per doz. crowns	2	0	2	3
Rhubarb	per doz. bunches	2	0	4	0
White Turnips	per bundle	0	3	0	8
Parsnips	per doz. bunches	1	8	2	0
"	per cwt.	3	6	5	0
Carrots	per doz. bunches	1	0	1	3
Parsley	per float	0	6	1	0
Thyme	per doz. bunches	0	6	1	4
Mint	per bunch	0	3	0	4
Beet	"	0	4	0	6
FLOWERS.					
Narcissi	per bunch	0	4	0	6
Tulips	"	0	6	0	10
Aran Lilies	each	0	4	0	6
Violets	per doz. bunches	1	0	1	9
Wallflowers	per bunch	0	6	0	8

## Smith's "Perfect" Patent Powder

# WEED KILLER

### MARVELLOUS INVENTION

### MOST EFFECTIVE

Nothing like it ever seen before. Soluble in Cold Water. All Tins Free. No Return Empties

## TESTIMONY

ENNISCORTHY.

The Powder Weed Killer I got from you last month is the best I ever used.

GLENFELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

		PRICES —			
1 Tin to make	25 gallons	£0	5	0	Post 8d.
4 Tins	100 "	1	0	0	" "
8 Tins	200 "	1	19	6	Box 2/-
12 Tins	300 "	2	18	0	Box 2/6
20 Tins	500 "	4	12	6	Box 3/6
40 Tins	1000 "	9	0	0	Boxes, 7/-

4 Tins when mixed with water will cover an area of about 400 sq. yards.

ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN

Eight Tins sent Carriage Paid to any Station in Ireland.

## "Perfect" Liquid Weed Killer

### PRICES.

One Gallon to make 25 Gallons for use.

1 gallon	£0 10	6 gallons	£1 9 6	16 gallons	£3 15 6
2 gallons	0 1 0	8 "	1 19 6	18 "	4 5 0
3 "	0 15 0	10 "	2 8 0	20 "	4 12 6
4 "	1 0 0	12 "	2 18 0	40 "	9 0 0
5 "	1 5 0				

Carriage paid on eight gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards. Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/6; 2 gal., 2/6; 3 gal., 3/-; 4 gal., 4/-; 5 gal., 4/6; 6 gal., 5/6; 8 gal., 7/-; 10 gal., 9/- Casks:—8 to 12 gallons, 5/-; 16 to 40 gallons, 7/6. Our preparations are all guaranteed full strength.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous.

Sole Proprietors, MARK SMITH, Ltd.

D. M. WATSON, M.P.S.,

Horticultural Chemist

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Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

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Hardy Plant Nurseries  
MERSTHAM — SURREY

Save  
weary  
Weeding  
and  
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**DEATH TO WEEDS**  
on Garden Paths, &c.  
No trouble. Simply dust it on.  
10 lbs. post free, 2s., or 28  
lbs. to dress 250 square yards.  
2s. 6d., carriage paid.  
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to each reader of this paper and could personally draw his attention to your own advertisement, at the cost of a few shillings only, and without wasting a minute of your time, you would be glad of the chance.

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**IRISH PHOTO ENGRAVING CO.**  
50 MID DUBLIN ST. DUBLIN

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FOOD SEEDS, many of which have only just come to hand from 1917 harvest. Order from your usual seedsman at once Seeds for Succession. Seeds to Fill Gaps caused by the recent set back, Seeds for Surplus War Crops. Do *not* order from us; we are merely wholesale growers (but if you have no seedsman we can recommend you to one in any part of the kingdom). **KELWAY'S, LANGPORT.**

## SOW NOW

Late Peas, Dwarf quick growing Peas, Runner Beans, Dwarf Beans, Haricot Beans, Butter Beans, Late Cabbage, Savoy, Cucumber, Radish, Late Broccoli, Winter Kale, Marrow, Spinach, Turnip, Beet, Horn Carrot, Main Crop Carrot, Parsley, Lettuce, Ridge Cucumber, Mustard, Cress, Sugar Beet, Sunflower (for poultry). See your retail seedsman; do *not* write to **KELWAY'S, Wholesale Seed Growers, LANGPORT.**

NOW IS THE TIME TO PLANT Kelway's Large Flowered **GLADIOLUS BULBS**. Our prices are as follows for really first-class named varieties:—

	per doz.	per 100
Collection B.	12/-	90/-
.. C.	18/-	140/-

12 varieties to the dozen. 10, 20, 25 varieties to the 100, or more if desired. Extra Choice Mixed, in good varieties, without names, 50/- per 100. 7/6 per dozen. Carriage and packing free for cash with order for 20/- or over.

## KELWAY & SON

Premier House for Gladioli since 1851

**LANGPORT, SOMERSET**

## AUTO-SHREDS

Is CERTAIN DEATH to Leaf-mining Maggots, Mealy Bug and all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; No. 4 Packet 2,500 cubic feet, 1/- each; for tender and ordinary plants, 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsman and Florists; if unobtainable apply direct—

**W. DARLINGTON & SONS, Ltd.**

Wholesale Horticultural Sundriestmen,  
HACKNEY, LONDON, E. 8.

Trade Terms and Catalogue of Sundries upon receipt of businesscard



## Get rid of these Pests to your Profit



## KATAKILLA

**THE PERFECT INSECTICIDE WASH FOR FRUIT, VEGETABLES, FLOWERS.**

Small Cartons for 10 Gallon Wash 1/6 each  
Large Cartons for 50 " " 4/6 each

From Nurserymen, Seedsman and Ironmongers

Sole Manufacturers

**Mc DOUGALL BROS LTD.**  
66-68, PORT STREET, MANCHESTER

# NITRATE OF SODA IN THE GARDEN

Is invaluable as an aid to the Gardener, in the successful cultivation of Fruit, Flowers, and Vegetables : :

By its quick action on vegetation, Maturity is hastened, and vegetables are improved in flavour, the tissue being tender, crisp, and less fibrous. This feature is particularly noticeable in Lettuce, Cabbage, and the whole of the Brassica tribe of plants : : : :  
In application, "little and often" is productive of the best results. If used in conjunction with phosphates and potash, half the usual quantity of dung need only be used.

*Full particulars and pamphlets on "Manuring in the Garden" will be sent free on application*

THE CHILEAN NITRATE COMMITTEE  
25 CHICHESTER STREET ————— BELFAST

ESTABLISHED 1882. TELEPHONE 8881 (Private Branch Exchange). TELEGRAMS—"BROOKS," DUBLIN

## HORTICULTURAL GLASS, PAINTS, &c.

GLASS	Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes.
PAINT	"BROMAS" for general household and estate purposes
	"VALENTINE" for hay barns, &c., doubles the life of galvanized iron.
	"PETREX" for conservatories, does not flake off.
"DEAUFITE"	Plastic Repair Compound for repairing leaky roofs and cracked glass, also for General Repair Work.
BOILERS	and heating plants, newest Types. Please ask for lists.
GREENHOUSES	And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

**BROOKS** THOMAS & CO.  
LTD.

BUILDERS' PROVIDERS, Sackville Place,

**Dublin**

# Department of Agriculture and Technical Instruction for Ireland.

## LIST OF THE DEPARTMENT'S LEAFLETS.

No.	Name	No.	Name
1	The Warble Fly.	54	Calf Meals.
2	The Use and Purchase of Feeding Stuffs	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight	58	Sprouting Seed Potatoes.
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13	Contagious Abortion in Cattle.	66	Forestry: The Proper Method of Planting Forest Trees.
14	Prevention of Potato Blight.	67	Forestry: Trees for Poles and Timber.
15	Milk Records.	68	Forestry: Trees for Shelter and Ornament.
16	Sheep Scab.	69	The Prevention of Tuberculosis in Cattle.
17	The Use and Purchase of Manures.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
18	Swine Fever.	71	Forestry: The Management of Plantations.
19	Early Potato Growing.	72	<i>Out of Print.</i>
20	Calf Rearing.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Slag.	75	Barley Sowing.
23	Disorning Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Bulls.	77	Scour and Wasting in Young Cattle.
25	Fowl Cholera.	78	Home Buttermaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter	81	Potato Culture on Small Farms.
29	Flax Seed.	82	Cultivation of Main Crop Potatoes.
30	Poultry Parasites—Fleas, Mites, and Lice.	83	Cultivation of Osiers.
31	Winter Egg Production.	84	Ensilage.
32	Rearing and Fattening of Turkeys.	85	Some Injurious Orchard Insects.
33	Profitable Breeds of Poultry.	86	Dirty Milk.
34	The Revival of Tillage.	87	Barley Threshing.
35	The Liming of Land.	88	The Home Bottling of Fruit.
36	Field Experiments—Barley.	89	The Construction of Piggeries.
37	" " Meadow Hay.	90	The Advantages of Early Ploughing.
38	" " Potatoes.	91	Black Scab in Potatoes.
39	" " Mangolds.	92	Home Preservation of Eggs.
40	" " Oats.	93	Marketing of Wild Fruits.
41	" " Turnips.	94	<i>Out of Print.</i>
42	Permanent Pasture Grasses.	95	Store Cattle or Butter, Bacon and Eggs.
43	The Rearing and Management of Chickens	96	Packing Eggs for Hatching.
44	"Husk" or "Hoose" in Calves.	97	Weeds.
45	Ringworm on Cattle.	98	Tuberculosis in Poultry.
46	Haymaking.	99	Seaweed as Manure.
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
50	Portable Poultry Houses.		
51	The Leather-Jacket Grub.		
52	Flax Growing Experiments.		
53	The Construction of a Cowhouse		

### SPECIAL LEAFLETS.

1	Catch Crops—Spring Feeding for Stock.	11	Poultry Feeding—The Need for Econ-
2	Autumn Sown Cereals.	12	Digging and Storing Potatoes. [omy.]
3	Eggs and Poultry.	13	Sulphate of Ammonia.
4	<i>Out of Print.</i>	14	Flax Seed for 1918 Sowing.
5	Spring Wheat.	15	Purchase of Basic Slag.
6	Winter Manuring Grass Lands.	16	Prices of Superphosphate.
7	Feeding of Pigs—Use of Boiled Swedes.	17	" Compound Fertilisers.
8	Destruction of Farm Pests.	18	Treatment of Allotments for the Growing of Vegetables.
9	<i>Out of Print.</i>	19	Home Curing of Bacon
10	Pig Feeding—The Need for Economy		

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

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HEATING, VENTILATING AND ELECTRICAL ENGINEERS AND IRONFOUNDERS.

*Although we are at present employed largely on National War Service, we are still in a position to carry out private work in the way of repairs and renewals. We ask our patrons to give us as much time as possible for the carrying out of such work, so that we may arrange to have it done without reducing our War Service output.*

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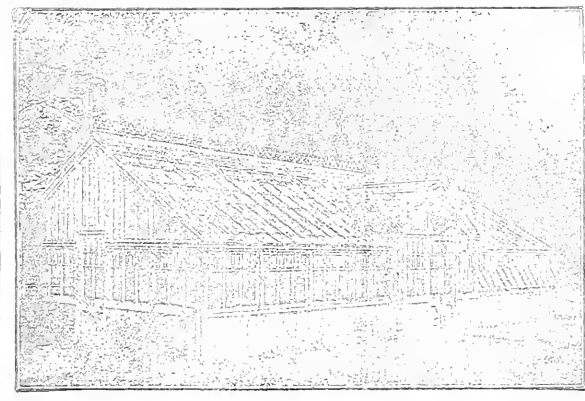
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MANUFACTURE OF ALL KINDS OF

## HORTICULTURAL BUILDINGS,

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## Show Fixtures 1918.

- Aug. 10 Tereure and Districts Horticultural Society. Hon. Sec., E. Carroll. 1 Rostrevor Terrace, Rathgar.
- .. 11 Kingstown Horticultural Society. People's Park, Kingstown. Hon. Sec., R. Macdonald, M.A., Technical School, Kingstown.

### SAVE YOUR FRUIT AND FLOWERS FROM INSECT PESTS BY USING THE COOPER Horticultural Remedies

#### + COOPER'S NICOTINE (V2) SUMMER FLUID FOR SUMMER SPRAYING

A Nicotine Preparation for Apple-Sucker, Green-Fly, &c., on FRUIT, ROSE and other TREES.

Sold in Qrt. Tins: 1, 2, 5, and 10 Gall. Drums;  
and in 20 and 40 Gall. Casks.

#### + COOPER'S MILDEW (V2K) FLUID FOR ROSE, STRAWBERRY and other MILDEWS also STRAWBERRY LEAF SPOT.

Sold in Qrt. Tins: 1, 2, 5, and 10 Gall. Drums;  
and in 40 Gall. Casks.

#### + COOPER'S ARSENATE OF LEAD PASTE FOR THE DESTRUCTION OF THE CODLING MOTH AND LEAF-EATING CATERPILLARS.

Mixes well, adheres well, remains a long time in suspension, coats foliage uniformly, and does not scorch when properly prepared.

Sold in 1, 5, and 10 lb. Tins; and in 50 and 100 lb. Kegs.

#### + COOPER'S FUMIGATING FLUID A re-inforced NICOTINE PREPARATION for Destroying INSECT PESTS in Glass-houses.

Sold in Bottles in 5 sizes; and in Pint, Qrt, & ½ Gall. Tins.

#### + COOPER'S WEEDICIDE After trial—Received the "Commended" award of the Royal Horticultural Society.

Kills Weeds on Garden Paths and Gravelled Spaces.

Sold in Qrt. Tins: ½, 1, 2, and 5 Gall. Drums, and in 20 and 40 Gall. Casks.

1 gall. makes 100 galls. of effective Weedkiller

Latest Prices on application

OF AGENTS EVERYWHERE

Sole Manufacturers;

WILLIAM COOPER & NEPHEWS, Berkhamsted.

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### "ABOL"

#### INSECTICIDE

The Great Non-Poisonous Garden Wash which is not only Insecticidal but also Fungicidal. It is a happy combination of all that's good in horticultural Washes and it holds a pre-dominant position in the Horticultural World. You should learn of the pleasing results obtained by its use. Write for our free Treatise, useful to all desirous of increasing the output of their plot. Better still, buy a tin of "Abol" now, and write for the Treatise as well: "ABOL" in tins: 1/2, 1/9, 2/10, 4/6, 8/4, and larger drums.



### "ABOL"

#### FERTILIZER The Wonderful Plant Food.

Without doubt the most sure and economical means of securing crops in abundance. Tins, 7d., 1/-; 7 lbs., 3/-; 14 lbs., 5/-; 28 lbs., 8/-; 56 lbs., 12/6 (in 28 lb. bags). "ABOL" Specialities are obtainable of Seedsmen, Nurserymen, Ironmongers and Stores. If you have any difficulty write. E. A. White, Ltd., 57 Beltring, Paddock Wood, Kent.

Awarded Gold Medal by Anglo-American Exhibition

Commended by Royal Horticultural Society.

### "ACME"

#### POWDER

## WEED KILLER

For Destroying Weeds, Moss, &c. on  
Garden Walks, Drives, Roads, &c.

LIQUID WEED KILLER.—Send for particulars.

ARSENATE OF LEAD PASTE—Spray your fruit trees. For destroying all leaf-eating insects, caterpillars, etc. 2-per lb.

LAWN SAND—Marvelous killing effect on weeds, but fertilises the grass. 7lb. 2/3; 14lb. 4/3; carriage paid on 56lb., 16-

"Fumerite."—For destroying all ground vermin. To be dug into the soil. 14lb. 3/9; 28lb. 7/-; 56lb. 12/6; 21-per cwt., carriage paid.

Extract of Quassia.—Pint, 1/6; postage 4d.; one gallon 5/-.

Compound Quassia-Tobacco Insecticide.—Pint 1/6, postage 4d.

ACME CHEMICAL CO., LTD.  
TONBRIDGE, KENT, and RIVER ST., BOLTON, LANCASHIRE

Sold by MESSRS. HAYES, CONYNGHAM & ROBINSON, LTD., Grafton St., and MESSRS. DRYMOND & SONS, 57 and 58 Dawson St., Dublin.

## Royal Horticultural Society of Ireland.

At the monthly meeting of the Council, held at the Society's offices, 5 Molesworth Street, Dublin, on the 10th ult., the Marquis of Headfort, President, in the chair, the following resolution of the sub-committee of arboriculture, referred to the Council for confirmation, was passed unanimously, viz.:—"The Committee of Arboriculture of the Royal Horticultural Society of Ireland hereby urges on His Majesty's Government the pressing necessity of taking immediate steps to secure adequate planting of the extensive and suitable unplanted areas in Ireland, and the replanting of the large tracts now being denuded of timber. This work has become one of absolute necessity and of vital importance for our future national security." The following facts demonstrate the urgency of this matter:—(1) The largely increased, and increasing, importations of all classes of timber. (2) The higher rate of felling than of planting—a rate which has increased so much proportionately during the war as to be a cause for serious alarm as to future supplies. (3) The increasing demand for timber and the great restrictions in the sources of supply. (4) The demonstrated fact that timber of first rate quality can be produced in Ireland. This committee therefore considers that the Government can render material assistance by—(1) Undertaking a well-considered and suitably endowed State system of reforestation and renovation. (2) By grants in aid to estate owners, to farmers, and to other occupiers of suitable land. (3) Providing a thorough training in wood-craft and in forestry for foresters, woodmen, and labourers. In view of the shortage of shipping

that must continue for many years after the declaration of peace, it is considered that Irish afforestation should, as soon as possible, be placed on a firm and business-like basis. A home supply of timber would relieve shipping that could be applied to other imports. Resolved,—"That a copy of this resolution be forwarded to the Prime Minister, to the Minister of Reconstruction, to the Chief Secretary for Ireland, to the Lord Lieutenant, to the Secretary of the Royal English Arboricultural Society, the Secretary of the Royal Scottish Arboricultural Society, and to the County Councils in Ireland." A further resolution referred to the Council by the Society's sub-committee of Arboriculture was also confirmed, viz.:—"We request the Department of Agriculture to consider the advisability of the establishment of Department Nurseries for forest trees throughout Ireland, as we believe this measure would do much to encourage planting, especially planting by farmers and small landowners." A draft schedule for the summer show, proposed to be held July 11th, was submitted and approved, in addition to which it was resolved, on the recommendation of the Committee of Arboriculture, to invite nurserymen and landowners to contribute objects of interest in forestry, for which honorary awards will be made according to merit.

## Dublin Wholesale Markets.

THERE was a plentiful supply of all classes of seasonable vegetables last month, for which there was a good sale, especially for Cabbages and Broccoli, but other descriptions of vegetables remain plentiful and slump. Rhubarb was

## Potato Spraying

DON'T take any risks with your potato crop this season. Apply for 25 page Government Booklet on Potato Disease and its Prevention, together with catalogue of FOUR OAKS Potato Spraying Machines, post free on application to

**The Four Oaks Spraying Machine Co.**

FOUR OAKS WORKS

**SUTTON COLDFIELD, BIRMINGHAM**

Machines in stock ready for immediate delivery

## Food for Next Winter

SOW NOW

## HARICOT BEANS AND PEAS

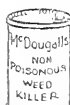
To harvest in September and dry for Winter use.

List of the most suitable varieties with full directions for harvesting sent on application. :: ::

Also Buckwheat for June sowing for Winter Food or Poultry.

**BARR & SONS, King St., Covent Garden, London**

Your Poultry cannot be harmed  
if you use  
**McDougall's NON POISONOUS WEED KILLER**  
SAFE & EFFECTIVE.



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**McDOUGALL BROS., LTD.**  
66-68, PORT ST, MANCHESTER.



# SLUGS!



**"SANITAS" Powder**  
**INSURES YOUR CROPS**  
 Against SLUGS, WORMS, RATS,  
 MICE, CATS and BIRDS.  
*(Leaflet and Sample free.)*  
 6d. and 1s. Tins and 15s. per Cwt. (f.o.r.  
 London) of all Chemists, Stores and  
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**THE SANITAS Co. Ltd.,**  
**LIMEHOUSE, LONDON E. 14.**  
*Awarded Medal, Royal Horticultural  
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**SANKEY'S GARDEN POTS**  
**the BEST and Cheapest**  
 State quantity of each of the various sizes and have "Sankey's" put in  
 quotation "Sankey's" is a quality product and will value of  
 1000s. or more for Price List free.  
 SPECIAL POTS of all descriptions. Bob Bowls and other  
 Fruit from 2s. 6d. each.  
**RICHARD SANKEY & SON, LTD.,**  
 Bulwell, Nottingham.

## THOMSON'S VINE PLANT & VEGETABLE MANURE

Unrivalled  
for all Garden Crops.  
 So Compounded as to combine  
 Stimulating with lasting effects.  
 Produces vigorous, healthy, and  
 fruitful growth. Also  
**THOMSON'S**  
**Special Toppdressing Manure.**  
 An Excellent Stimulant.

**PRICES**  
 Note—Quantities of 56lbs. and over are  
 supplied in 28lb. bags.  
**Vine, Plant, and Vegetable Manure.**—  
 112 lbs., 24/-; 56 lbs., 13/6; 28 lbs.,  
 7/6; 14 lbs., 4/6; 7 lbs., 2/6; Tins, 2/6,  
 1/-, and 6d. Carriage paid on 56 lbs.  
 and up anywhere in United Kingdom.  
**Special Toppdressing Manure**—56 lbs.,  
 20/-; 28 lbs., 11/-; 14 lbs., 6/-; 7 lbs.,  
 3/6; Tins, 1/- Carriage paid on 28 lb.  
 and up anywhere in United  
 Kingdom. Also  
 Thomson's Styptic, 3/- and 1/6  
 per bottle,  
 Sold for Horticultural pur-  
 poses by all Seedsmen  
 and Nurserymen,  
 or from

SOLE  
MAKERS

W. THOMSON & SONS LTD CLOVENFORDS N.B.

## Ask Your Nurseryman or Seedsman

For the following Well Known and Highly  
Efficient Horticultural Preparations.

### THE CHEAPEST INSECTICIDE OF THE DAY

#### "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable  
ingredients, forming a cheap, safe, and effective Insecticide for syring-  
ing and dipping. It destroys all Insect Pests infesting Trees and  
Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

**PRICES**—Half-pint, 1/-; pint, 1/6; quart, 3/-; half-gallon, 5/-;  
gallon, 8/6; five gallons, 30/-; ten gallons, 54/-  
1 gallon sufficient for 80 gallons of water.

## STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers  
Analysis on Application

Sold in Tins, 7½d., 1/3, 3/-, 6/6 each; and in Kegs, well secured, to pre-  
vent loss through exposure, 28 lbs., 10/6; 56 lbs., 18/-; 112 lbs., 30/-

For Fumigating in Greenhouses.

#### "LETHORION"

## IMPROVED METAL CONES

Registered No: 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs  
lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic  
feet. Price, 7½d. each.

No. 2. For small greenhouses up to 1,500 cubic feet.  
Price, 10d. each.

No. 3. For a well secured house of 2,000 to 2,500  
cubic feet. Price, 1/3 each.

## FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns  
and at the same time stimulating the growth of the grass. If one tin  
is tried as a sample, its value will be at once appreciated. Sales are  
largely increasing.

Tins, 1/3, 3/-, and 6/- each; Kegs, ½ cwt., 10/-; 1 cwt., 18/-;  
1 cwt., 34/-

#### ELLIOTT'S

## "SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,629.

(The only genuine original and Improved article)

For Greenhouses. A pleasant green shade is given to the glass.  
In packets, 1/3 for 100 feet of glass, and 3/- each for 300 feet.

Sole Manufacturers:

## CORRY & Co., Ltd., LONDON

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists'  
Sundries and Tobacco Preparations Free of Duty, for Agricultural  
and Horticultural Purposes.

of early arrival. The market was remarkably well supplied, and at satisfactory prices, notwithstanding the sugar shortage. A few small lots of early Potatoes were to be seen on the market, which sold at remarkably good prices.

The first arrival of Gooseberries made its appearance on the market early last month, and continued to be well supplied towards the end of the month; they were eagerly bought up at good prices. The supply of forced Strawberries was a little better than before, and prices continue to be very good.

The market was a little better supplied with cut flowers, but prices remain high, more especially for white blooms. Red Roses are scarce. Carnations are good and sufficient for the demand. Darwin Tulips were supplied in abundance, principally from our doors. Daffodils are nearly finished now; the chief varieties are Emperor and Victoria, which find a ready sale.

The following is a price list for the month:-

FRUIT.		From	To
		s. d.	s. d.
Strawberries	per lb.	7 3	8 0
Gooseberries	per quart	0 10	1 0

VEGETABLES.		From	To
		s. d.	s. d.
Cabbages (York)	per load	15 0	29 0
Broccoli			
(1st quality)	per basket	10 0	14 0
(2nd quality)	..	3 6	6 0
Scallions	per bunch	0 9	1 2
Leeks	..	0 1	0 8
Lettuce	per doz.	0 4	1 6
Rhubarb	per doz. bunches	1 6	6 0
White Turnips	per bundle	0 3	0 8
Parsnips	per doz. bunches	1 8	2 0
..	per cwt.	1 6	5 0
Carrots	per doz. bunches	1 0	1 3
Parsley	per float	0 3	1 0
Thyme	per doz. bunches	0 6	1 3
Mint	per bunch	0 3	0 4
Radishes	per doz. bunches	0 4	0 6
FLOWERS.			
Anemone fulgens	per doz. bunches	1 0	5 0
Carnations	per doz. blooms	2 0	4 0
Daffodils	per doz. bunches	1 0	4 6
Roses	per doz. blooms	2 6	4 0
Tulips	..	1 0	1 6
Arums	..	8 0	9 0
J. S. T.			

## Smith's "Perfect" Patent Powder

# WEED KILLER

**MARVELLOUS INVENTION** **MOST EFFECTIVE**  
Nothing like it ever seen before. Soluble in Cold Water. All Tins Free. No Return Empties

### TESTIMONY

ENNISCORTHY.

The Powder Weed Killer I got from you last month is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

		PRICES -	
			Post 8d.
1 Tin to make	25 gallons	£0 5 0	
4 Tins	100 "	1 0 0	" "
8 Tins	200 "	1 19 6	Box 2/-
12 Tins	300 "	2 18 0	Box 2 6
20 Tins	500 "	4 12 6	Box 3 6
40 Tins	1000 "	9 0 0	Boxes, 7/-

4 Tins when mixed with water will cover an area of about 400 sq. yards.  
ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN  
Eight Tins sent Carriage Paid to any Station in Ireland.

## "Perfect" Liquid Weed Killer

PRICES		One Gallon to make 25 Gallons for use.												
1	gallon	20	5	0	6 gallons	21	9	6	16 gallons	23	15	6		
2	gallons	0	10	0	8	"	1	19	6	18	"	4	5	0
3	"	0	15	0	10	"	2	3	0	20	"	4	12	6
4	"	1	0	0	12	"	2	18	0	40	"	9	0	0
5	"	1	5	0										

Carriage paid on eight gallons to Stations in Ireland

4 gallons when mixed will cover an area of about 400 square yards.  
Drums and Casks charged extra. Full price allowed for empties returned in good condition. Carriage paid.

PRICES OF PACKAGES. Drums—1 gal., 1/6; 2 gal., 2/6; 3 gal., 3/-; 4 gal., 4/-; 5 gal., 4/6; 6 gal., 5/6; 8 gal., 7/-; 10 gal., 9/-  
Casks—8 to 12 gallons, 5/-; 16 to 40 gallons, 7/6. Our preparations are all guaranteed full strength.

IRISH AGENT—

NOTICE.—These Preparations are Poisonous.

Sole Proprietors, MARK SMITH, Ltd.

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Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

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**W. WELLS, Junior**  
Hardy Plant Nurseries  
**MERSTHAM—SURREY**

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You can do what comes to the same thing—use an Illustration Block in your advertisement that will compel his attention. We can get up sketches and supply blocks for Advertisements, Booklets, and Catalogues, &c.

**IRISH PHOTO ENGRAVING CO.**  
50 MID ABBEY ST. DUBLIN.

NOW IS THE TIME TO SOW

to defeat the Enemies' plans. If you have any vacant plot, consult your Seedsman as to what can be sown now. (Do *not* write to us.)

KELWAY & SON.

Wholesale Seed Growers,  
LANGPORT, SOMERSET

# Save weary Weeding and Backache

GARDEN AIDS  
BOOKLET FREE

# WEEDITE

## DEATH TO WEEDS

on Garden Paths, &c.  
No trouble. Simply dust it on  
10 lbs. post free, 3s., or 28  
lbs. to dress 250 square yards,  
6s. 3d., carriage paid.

**BOUNDARY CO., Ltd.**  
Cranmer St., LIVERPOOL

# AUTO-SHREDS Is CERTAIN DEATH to

**AUTO-SHREDS** Is CERTAIN DEATH to leaf-miing Maggots, Mealy Bug and all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to Fumigate 1,000 cubic feet, 6d.; No 4 Packet 2,500 cubic feet, 1/- each; for tender and ordinary plants, 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

W. DARLINGTON & SONS,  
Ltd.

Wholesale Horticultural Sundriesmen,  
HACKNEY, LONDON, E. 8.

Trade Terms and Catalogue of Sundries upon receipt of business card



## Get rid of these Pests to your Fruit

# KATAKILLA

NON-POISONOUS

THE PERFECT INSECTICIDE WASH FOR FRUIT,  
VEGETABLES, FLOWERS.

Small Cartons for 10 Gallon Wash .....	1'6 each
Large Cartons for 50 D° D° .....	4'6 each

From Nurserymen, Seedsmen and Ironmongers.

**Sole Manufacturer:**

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66-68, PORT STREET, MANCHESTER

ROYAL HORTICULTURAL SOCIETY OF IRELAND

## SUMMER SHOW

(Private Exhibition for members and friends,  
admission by ticket only) :: :: ::

WILL, BY KIND PERMISSION OF

VISCOUNT IVEAGH, K.P., be held in the Stable Yard,  
80 St. Stephen's Green (entrance Earl'sfort Terrace),  
:: :: on Thursday, 11th July, 1918 :: ::

Schedules and all particulars from  
E. KNOWLDIN, Secretary, 5 MOLESWORTH ST., DUBLIN

38 classes, also special  
trade exhibits, for which  
competition The Marquis  
of Headfort, President,  
offers a Silver Cup, and  
exhibits of forestry interest,  
for which honorary awards  
will be made.



Terenure & Districts Horticultural Society

## ANNUAL SHOW

SATURDAY, 10th AUGUST, 1918

Schedule post free from  
E. CARROLL, Hon. Sec., 1 Rostrevor Tce., Rathgar

## Vegetables

FLOWERS  
FRUIT ::

Open Classes ::  
Novices' Classes

Entries close 3rd August

*Special Terms for Allotment Holders.*

ESTABLISHED 1832. TELEPHONE 3351 (Private Branch Exchange). TELEGRAMS—"BROOKS," DUBLIN

## HORTICULTURAL GLASS, PAINTS, &c.

GLASS . . . Cut to dimensions, packed and delivered at your rail-  
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PAINT . . . "BROMAS" for general household and estate purposes  
"VALENTINE" for hay barns, &c., doubles the life of  
galvanized iron.

"PETREX" for conservatories, does not flake off.  
"DEAUTITE" . Plastic Repair Compound for repairing leaky roofs and  
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BOILERS . . . and heating plants, newest Types. Please ask for lists.

GREENHOUSES And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

**BROOKS** THOMAS & CO.  
LTD.

BUILDERS' PROVIDERS, Sackville Place,

**Dublin**

# LIST OF THE DEPARTMENT'S LEAFLETS.

No.	Name	No.	Name
1	The Warble Fly.	54	Calf Meals.
2	The Use and Purchase of Feeding Stuffs.	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight	58	Sprouting Seed Potatoes.
6	Charlock (or Preshaugh) Spraying	59	Testing of Farm Seeds.
7	Fluke in Sheep.	60	<i>Out of Print.</i>
8	Timothy Meadows.	61	Field Experiments—Wheat.
9	The Turnip Fly.	62	The Management of Dairy Cows.
10	Wireworms.	63	"Redwater" or "Blood Murrain" in Cattle.
11	Prevention of White Scour in Calves.	64	Varieties of Fruit suitable for cultivation in Ireland.
12	Liquid Manure.	65	Forestry: The Planting of Waste Lands.
13	Contagious Abortion in Cattle.	66	Forestry: The Proper Method of Planting Forest Trees.
14	Prevention of Potato Blight.	67	Forestry: Trees for Poles and Timber.
15	Milk Records.	68	Forestry: Trees for Shelter and Ornament.
16	Sheep Scab.	69	The Prevention of Tuberculosis in Cattle.
17	The Use and Purchase of Manures.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
18	Swine Fever.	71	Forestry: The Management of Plantations.
19	Early Potato Growing.	72	<i>Out of Print.</i>
20	Calf Rearing.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Slag.	75	Barley Sowing.
23	Dishorning Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Bulls.	77	Scour and Wasting in Young Cattle.
25	Fowl Cholera.	78	Home Buttermaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter	81	Potato Culture on Small Farms.
29	Flax Seed.	82	Cultivation of Main Crop Potatoes.
30	Poultry Parasites—Fleas. Mites, and Lice.	83	Cultivation of Osiers.
31	Winter Egg Production.	84	Ensilage.
32	Rearing and Fattening of Turkeys.	85	Some Injurious Orchard Insects
33	Profitable Breeds of Poultry.	86	Dirty Milk.
34	The Revival of Tillage.	87	Barley Threshing.
35	The Liming of Land.	88	The Home Bottling of Fruit.
36	Field Experiments—Barley.	89	The Construction of Piggeries.
37	" " Meadow Hay.	90	The Advantages of Early Ploughing.
38	" " Potatoes.	91	Black Scab in Potatoes.
39	" " Mangolds.	92	Home Preservation of Eggs.
40	" " Oats.	93	Marketing of Wild Fruits.
41	" " Turnips.	94	<i>Out of Print.</i>
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43	The Rearing and Management of Chickens	96	Packing Eggs for Hatching.
44	"Husk" or "Hoose" in Calves.	97	Weeds.
45	Ringworm on Cattle.	98	Tuberculosis in Poultry.
46	Haymaking.	99	Seaweed as Manure.
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
50	Portable Poultry Houses.		
51	The Leather-Jacket Grub.		
52	Flax Growing Experiments.		
53	The Construction of a Cowhouse		

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1	Catch Crops—Spring Feeding for Stock.	11	Poultry Feeding—The Need for Econ.
2	Autumn Sown Cereals.	12	Digging and Storing Potatoes. [omy.
3	Eggs and Poultry.	13	Sulphate of Ammonia.
4	<i>Out of Print.</i>	14	Flax Seed for 1918 Sowing.
5	Spring Wheat.	15	Purchase of Basic Slag.
6	Winter Manuring Grass Lands.	16	Prices of Superphosphate.
7	Feeding of Pigs—Use of Boiled Swedes.	17	" Compound Fertilisers.
8	Destruction of Farm Pests.	18	Treatment of Allotments for the Growing of Vegetables.
9	<i>Out of Print.</i>	19	Home Curing of Bacon
10	Pig Feeding—The Need for Economy		

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

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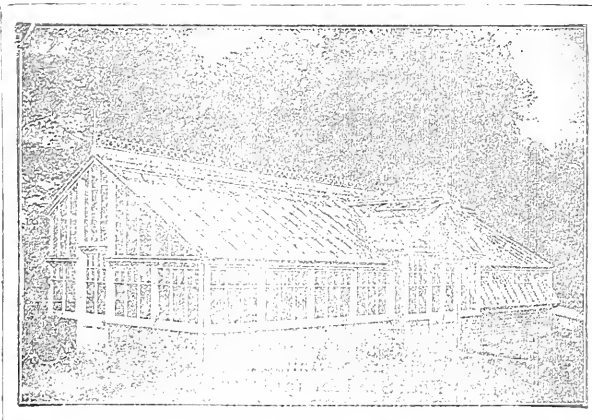
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## Notice to Subscribers.

WE regret to have to announce that the further advances in wages and in the already greatly increased cost of paper and other materials used in the production of IRISH GARDENING, and also the new postal regulations, which have raised the postage to 1½d. per month, necessitate a further increase in the price of the journal. Commencing with next month's number—August, 1918—the price of IRISH GARDENING will be 6d. per month; 7½d. post free.

Annual Subscriptions will, however, be accepted at 6s. (including postage) if paid in advance, thus reducing the cost of the journal to annual subscribers to 4½d. per month, 6d. post free.

These changes will *not*, however, affect annual subscriptions which have already been paid; they will be continued until expiration without any further charge.

We feel confident that our readers will approve of this rather than that there should be (as in the case of so many other publications) a reduction in the size of the journal or a lowering in the excellence of production which has been hitherto maintained notwithstanding the increasing expenses.

IRISH GARDENING LTD.

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*" 'Tis not in mortals  
to cure Potato Blight  
but we'll do more  
—prevent it," says  
Mr. Berger.*

*"Mr. Berger"  
established in 1760*

Blight may attack your crops this season—remember the spread of the disease last year. You cannot cure, but can prevent it by spraying with Bordeaux

Mixture as recommended by the Food Production Department (page 8, Potato Blight leaflet) and incidentally increase your yield by 2 tons per acre. Don't wait for disease, and don't risk scorching by using home made mixtures, but spray at least twice—at two weeks' interval—with the safe paste which is ready for use with water—

**Berger's Bordeaux Mixture**  
**Bergercide**  
prevents Potato Disease

*Spray Your Fruit Trees with*

**BERGER'S ARSENATE OF LEAD**

harmless to trees, fruit and foliage, but death to all leaf-eating insects.

**BERGER'S LIME SULPHUR** concentrated Fungicide solution. Destroys scale insects and fungus. Mixed with Arsenate of Lead it makes the ideal combination wash controlling all insects and fungus.

*Ask the local Berger Agent for  
Illustrated Spraying leaflets, or*

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**"ABOL"**  
**FERTILIZER**  
The Wonderful  
Plant Food.

Without doubt the most sure and economical means of securing crops in abundance. Tins, 7d., 1/-; 7 lbs., 3/-; 14 lbs., 5/-; 28 lbs., 8/-; 56 lbs., 12/6 (in 28 lb. bags).

"ABOL" Specialities are obtainable of Seedsmen, Nurserymen, Ironmongers and Stores. If you have any difficulty write. E. A. White, Ltd., 57 Beltring, Paddock Wood, Kent.

## Royal Horticultural Society of Ireland.

THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 14th ult., the Marquis of Headfort, President, presiding. A letter was read from Viscount Iveagh, K.P., granting the use of the stable yard, 80 St. Stephen's Green (entrance by Earlsfort Terrace), for the summer show, Thursday July 11th, a vote of thanks being unanimously passed to Lord Iveagh for the privilege. Judges were nominated for the show, which will be a private exhibition for members and friends, admission by ticket only. Lord Headfort intimated he would give an annual cup, which was gratefully accepted and decided to offer to the trade for the most effective group of hardy plants staged on a space not exceeding 30 feet by 6 feet in depth at its widest part, special points to be given to the group containing the most interesting and decorative hardy plants, and method of staging being adopted, with liberty to vary the outline but to be confined in the above space limits. Over and above the prize classes, honorary awards will be made to forestry exhibits of merit showing objects of interest connected with the subject. A vote of thanks was passed to Mr. John Howard Parnell, Sion House, Glenageary, for a dish of ripe Peaches grown in a cold house from a seedling tree raised by him from varieties he formerly grew in Alabama and Georgia, U.S.A., for the New York markets. The Peach in question is rather below medium size, of good colour and high flavour, with acutely acuminate leaves eight inches long, bearing kidney shaped glands. The following, proposed by the Marquis of Headfort were elected members of the society, viz.:—Sir, Thomas Stafford, Bart., Rockingham, Boyle; Lady Byrne, Rathfarnham; Percy La Touche, Esq., D.L., Harristown, Brannockstown, Co. Kildare; Lord Dunraven, Adare Manor, Limerick; W. G. R. Tisdall, Esq., Charlesfort, Kells, Meath; Mrs. G. H. Fowler, Eureka, Kells, Meath; Lady Millbank, Mullaboden, Ballymore-Eustace, Co. Kildare. It was decided to hold the next Council Meeting July 5th.

## R.H.S. War Horticultural Relief Fund

THE Committee of the Royal Horticultural Society's Relief Fund is renewing its appeal for money to restore the gardens, orchards and small-

holdings of our Allies devastated by the German invasion. A very large sum will be required to carry out this work, as it means the re-instatement of the horticultural industries upon which millions of Belgian, French and Serbian peasants depend for a livelihood.

The food problem will not cease with the war, and when Belgium and France are again able to supply us with large quantities of fruit and vegetables it will help to ease our own difficulties. Thus in helping them we shall also be helping our own country.

In the recent German advance on the Somme the Picardy orchards, damaged in 1916 by the retreating Germans, but partially restored in 1917 by skilful grafting, have again been desolated, and that work of restoration must be undertaken anew. An illustrated booklet entitled "Battle-Scarred Wastes," has just been published by the Executive Committee of the Fund, from its Headquarters, 17 Victoria Street, Westminster, S.W.1, and may be had on application to the Organising Secretary.

## Trial of Herbaceous Pæonies at Wisley, 1918.

THE following awards have been made by the Council of the Royal Horticultural Society to Herbaceous Pæonies after trial at Wisley:—

*Award of Merit*.—No. 124, *delicatum*, sent by Messrs. Forbes, Nos. 85, 94, *Duchesse de Nemours* (No. 85 sent in as *alba superba*), both sent by Messrs. Ware, Nos. 90, 114 \* *festiva maxima*, sent by Messrs. Ware and Messrs. Kelway, No. 106, *Lady A. Duff*, sent by Messrs. Kelway.

*Highly Commended*.—No. 4, *Dawn*, sent by Messrs. Barr, No. 145, *L'Élégante*, sent by Messrs. Ware, No. 69, *Marshall Oyama*, sent by Messrs. Bath, No. 81, *Mme. Crousse*, sent by Messrs. Bath, Nos. 129, 130, *Mons. Chas. Lévêque* (syn. *FMlle. Leonie Calot*), sent by Messrs. Bath and Messrs. Ware, No. 49, *The Marquis*, sent by Messrs. Kelway, No. 147, *Virginie*, sent by Messrs. Bath.

*Commended*.—No. 22, *Pride of Langport*, sent by Messrs. Kelway, No. 40, *Roseen*, sent by Messrs. Kelway.

\* Note.—No. 114 was sent in as Hon. Mrs. Portman.



Your Poultry cannot be harmed  
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# McDougall's NON POISONOUS WEED KILLER

**SAFE & EFFECTIVE.**

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66-68, PORT ST, MANCHESTER.

## Show Fixtures 1918.

- July 11 Royal Horticultural Society Summer Show, Entrance, Earlsfort Terrace, E. Knowlton, Secretary, 5 Molesworth Street (see page 11.).
- Aug. 10 Terenure and Districts Horticultural Society, Hon. Sec., E. Carroll, 1 Rostrevor Terrace, Rathgar.
- „ 14 Kingstown Horticultural Society, People's Park, Kingstown, Hon. Sec., R. Macdonald, M.A., Technical School, Kingstown.

## “Sanitas Powder” v Slugs

See what a satisfied user writes:—

98 REGENT ROAD,  
HANDSWORTH, BIRMINGHAM,  
21st May, 1918

DEAR SIR,

Being a very enthusiastic gardener, I was told by a friend to use your ‘SANITAS’ Powder on my garden to keep the slugs and snails away, which I have done to my great satisfaction. I have not seen a slug or a snail, and before, my garden was infected by cuts and birds which I rarely see.

You will be pleased to note that I am writing every gardener and smallholder to use it, and I feel sure when once used they will never be without it. It is indeed the gardener's friend. You can with pleasure make use of this letter.

Wishing you every success.

I remain,

Yours faithfully,

F. G. WESTACOTT SHAPLAND.

**SANKEY'S PATENT GARDEN POTS**  
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quotation” (carriage) sent, amounting to half value of  
goods, or write for price list free.  
SPECIAL POTTS of all descriptions, Baby Bowls and Fern  
Pans from 1/- each.  
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SUTTON COLDFIELD, BIRMINGHAM  
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For the following Well Known and Highly Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY

“NIQUAS”

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half-gallon, 5/-; gallon, 8/9; five gallons, 30/-; ten gallons, 54/-  
1 gallon sufficient for 80 gallons of water.

## STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers  
Analysis on Application

Sold in Tins, 7½d., 1/3, 3/-, 6/6 each Cheaper in Bulk.

For Fumigating in Greenhouses.

“LETHORION”

## IMPROVED METAL CONES

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To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and “lean-to's” up to 1,000 cubic feet. Price, 10d. each.

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No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

## FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/3, 3/-, and 6/- each; Kegs, ½ cwt., 10/-; ¼ cwt., 18/-;  
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For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

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## Dublin Wholesale Markets.

THERE was an unusual glut of Onions in the markets in the early part of last month. This was owing to the close, dry weather, which had a tendency to run them to seed, and the tops, too, were showing much discolouration which made gardeners anxious to clear them out as quickly as possible. Under this pressure prices were low and irregular, but towards the end of the month supplies decreased a little and prices were better. Rhubarb continued to be largely marketed all through the month and sold remarkably well for the time of year, although not so satisfactorily as for some time previous. Cabbages were plentiful, and prices were very low early in the month, but improved later. Cauliflowers of good quality were rather scarce and making good prices. The market was largely stocked with Lettuce, Radishes and other seasonable commodities. White Turnips came in more freely and sold well.

With regard to fruit, the trade and market is altogether upset by the Government Order regulating, under D.O.R.A., that all fruit must be consigned to a licensed seller, who in turn must undertake to sell to a recognised and licensed jam manufacturer. Growers, therefore, in the present uncertainty of things, have stopped pulling fruit, and shopkeepers are likely to be without same, and in these circumstances a great deal of fruit is going to waste in many districts.

Cut flowers were in more profusion, and sold well: choice flowers greatly wanted.

The following is a price list for the month:—

		VEGETABLES.	From	To
Cabbages (York)	per load		14 0	35 0
Cauliflowers	per dozen		6 9	7 6
"    seconds	"		3 0	4 0
White Turnips	per bunch		0 10	1 9
Rhubarb	per doz. bunches		2 0	5 6
Scallions	per bunch		0 9	2 0
Tripoli Onions	"		1 4	1 9
Spinach	per float		1 6	2 0
Thyme	per doz. bunches		0 6	0 9
Cucumbers	"		6 0	8 0
Celery	per bunch		0 6	0 9
Parsley	per float		0 6	0 10
Carrots	per doz. bunches		1 6	2 6
Beetroot	per bunch		0 6	0 8
Leeks	per bunch		0 2	0 4
Lettuce	per dozen		0 6	1 0
Radishes	per doz. bunches		0 4	0 6
Tomatoes	per lb.		1 9	2 0
New Potatoes	per stone		1 6	2 0
		FRUIT.		
Gooseberries	per half bushel		6 0	8 0
"	per strike		3 6	4 6
"	per tray		4 9	5 9
"	per handle		2 0	2 3
Peaches	per doz.		12 0	18 0
Grapes	per lb.		3 0	3 6
		FLOWERS.		
Carnations	per doz. blooms		2 0	3 6
Pyrethrum	per doz. bunches		3 0	4 6
Roses	per doz. blooms		1 6	3 0

J. S. T.

## SHERWIN-WILLIAMS BORDEAUX MIXTURE

## PLOTHOLDERS

SHOULD SAVE THEIR POTATOES BY  
SPRAYING WITH

Sherwin-Williams Bordeaux Mixture.

*Supplied in tins of one pound and upwards.*

FULL PARTICULARS FROM

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vided by the Department during the year 1918-19  
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SECRETARY, Department of Agriculture  
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each; Sickles, 3 for 2/=-, post paid.  
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Save  
weary  
Weeding  
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**WEEDITE**  
**DEATH TO WEEDS**  
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No trouble. Simply dust it on.  
10 lbs. post free, 3s., or 2s.  
lbs. to dress 250 square yards,  
6s. 3d., carriage paid.  
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**AUTO-SHREDS** IS CERTAIN  
to  
Leaf-mining Maggots, Mealy Bug and  
all Pests infesting plants under glass, &c.  
Simple to use, no apparatus required. In  
Boxes to fumigate 1,000 cubic feet. 9d.,  
No. 4 Packet 2,500 cubic feet. 1/- each;  
for tender and ordinary plants, 10,000  
cubic feet, 3s. 6d. each. Obtained of  
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Ltd.

Wholesale Horticultural Sundriestmen,  
HACKNEY, LONDON, E. 8.

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Autumn, and you will be able to enjoy its exquisite  
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garden to Kelway & Son, Delphiniums, Phloxes, and  
other summer flowers included in their Colour  
Schemes, which provide blooms from early Spring  
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**NOW IS THE TIME TO PLANT** Kelway's  
Properly Kelway's celebrated new varieties,  
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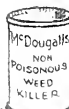
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66-68, PORT ST, MANCHESTER.



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*The best main crop yet raised*

OPEN GROUND RUNNERS. 20s. 100; 4s. doz.

In pots. 30s. 100; 6s. doz.

Also ADMIRAL THE DUKE and BOUNTIFUL

The Grand New Forcing Variety -

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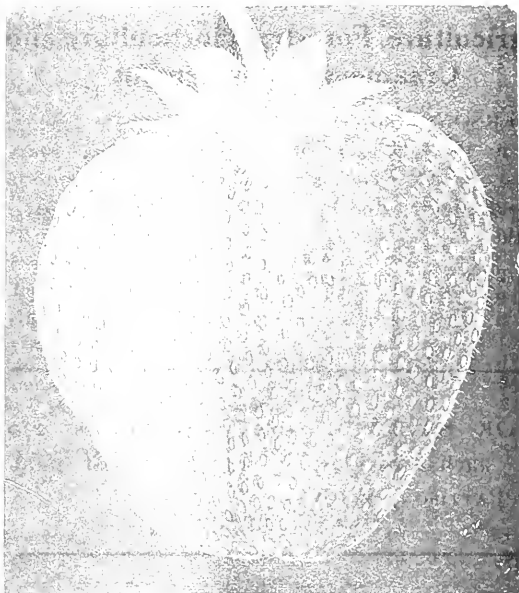
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1	The Warble Fly	54	Calf Meats.
2	The Use and Purchase of Feeding Stuffs	55	The Apple.
3	To stop a Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight	58	Sprouting Seed Potatoes
6	Charlock for Dashaugh Spraying	59	Testing of Farm Seeds.
7	Hute in Sheep.	60	The Packing of Butter.
8	Thinchy Meadows.	61	Field Experiments—Wheat.
9	The Thrip Fly.	62	The Management of Dairy Cows.
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14	Prevention of Potato Blight.	67	Forestry: Trees for Poles and Timber.
15	Milk Bacteria.	68	Forestry: Trees for Shelter and Ornament.
16	Sheep Scab.	69	The Prevention of Tuberculosis in Cattle.
17	How to select and Purchase of Manure.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
18	Scour in Pigs.	71	Forestry: The Management of Plantations.
19	Early Calf Growing.	72	<i>Out of Print.</i>
20	How to Rear Pigs.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Slag.	75	Barley Sowing.
23	Disbanding Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Pigs.	77	Scurvy and Wasting in Young Cattle.
25	Fowl Cholera.	78	Home Buttermaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter	81	Potato Culture on Small Farms.
29	Flax Seed.	82	Cultivation of Main Crop Potatoes.
30	Poultry Parasites—Fleas, Mites, and Lice.	83	Cultivation of Osiers.
31	White Egg Production.	84	Ensilage.
32	Rapid and Fattening of Turkeys	85	Some Injurious Orchard Insects.
33	Profitable Breeds of Poultry.	86	Dirty Milk.
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35	The Liming of Land.	88	The Home Bottling of Fruit.
36	Field Experiments—Barley.	89	The Construction of Piggeries.
37	" "	90	The Advantages of Early Ploughing.
38	" "	91	Black Scab in Potatoes.
39	" "	92	Home Preservation of Eggs.
40	" "	93	Marketing of Wild Fruits.
41	" "	94	<i>Out of Print.</i>
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43	The Rear and Management of Chickens	96	Packing Eggs for Hatching.
44	"Husk" or "Hoose" in Cattle.	97	Weeds.
45	Ringworm on Cattle.	98	Tuberculosis in Poultry.
46	Haymaking.	99	Seaweed as Manure.
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
50	Portable Poultry Houses.		
51	The Leather-jacket Grub.		
52	Flax Growing Experiments.		
53	The Construction of a Cowhouse		

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2	Autumn Sowing Cereals.	13	Sulphate of Ammonia.
3	Eggs and Poultry.	14	Compulsory Saving of Flax Seed in 1918.
4	" "	15	Purchase of Basic Slag.
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6	Winter Manuring Grass Lands.	17	" " Compound Fertilisers.
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8	<i>Out of Print.</i>	19	Home Curing of Bacon.
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10	<i>Out of Print.</i>	21	Farmers and Income Tax. (Water.
11	Poultry Feeding—The Need for Econ-		

Copies of the above Leaflets can be obtained, **FREE OF CHARGE** and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

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## Royal Horticultural Society of Ireland

# WINTER SHOW

BY KIND PERMISSION OF

VISCOUNT IVEAGH, K.P.

WILL BE HELD IN THE

Covered Yard, 80 St. Stephen's Green

(ENTRANCE FROM EARLSFORT TERRACE)

Admission (non-members) 2 to 4 p.m., 2/-; 4 to 6 p.m., 1/-  
WEDNESDAY, OCTOBER 16TH,

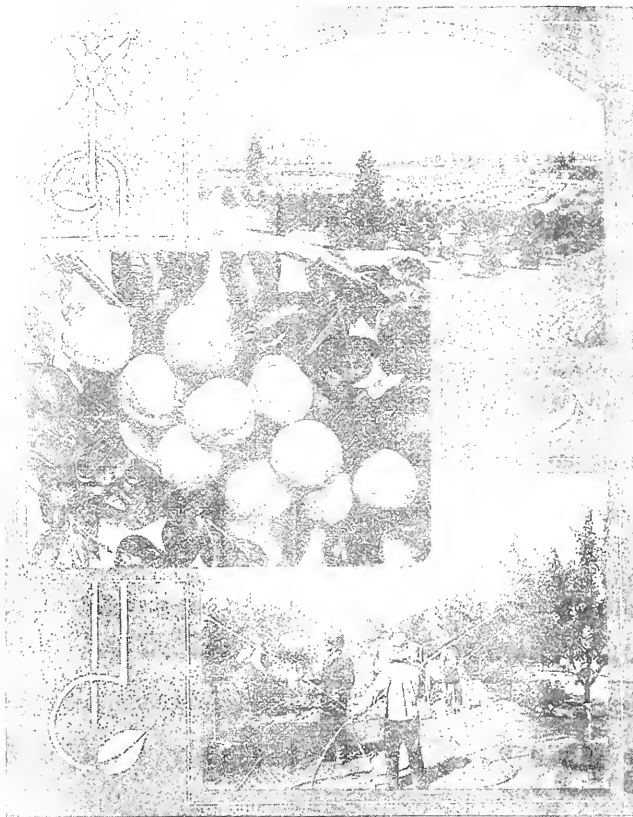
12 to 4 p.m., 1/-, THURSDAY, OCTOBER 17TH (including tax.)

Special Prizes of Silver Salver, and Certificates signed by Admiral Sir David Beatty, presented by the Officers and Men of the Grand Fleet, and Silver Cup presented by the Executive of the Vegetable Products Committee.





## The Orchard of the Empire



British Columbia has been aptly termed the Orchard of the Empire. It is a land of fruit and flowers, and the specimens of apples in the composite views reproduced above and the spraying scene afford some idea of the extent to which horticulture has been developed in Canada's most Westerly Province.—Photo by courtesy of the Agent-General for B.C., 13 Regent Street, London, S.W. 1.



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BY USING

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Our Vine,  
Plant and Veget-  
able Manure, also Special  
Top-dressing Manure are ever

increasing in public favour—they embody the  
practical experience of many years in all branches  
of Horticulture, producing vigorous, healthy and fruitful growth  
Write for our booklet containing useful hints on Gardening Matters.

NOTE—Quantities of 25 lbs. and over are supplied in 14 lb. bags.

VINE, PLANT AND VEGETABLE MANURE.—12 lbs., 30/-; 56 lbs., 14/-; 28 lbs., 9/-; 14 lbs., 5/-;  
7 lbs., 3/-; Tins 2/6 and 1/3. Carriage paid on 56 lbs. and up, anywhere in United Kingdom.  
SPECIAL TOP-DRESSING MANURE.—56 lbs., 21/-; 28 lbs., 11/6; 14 lbs., 6/-; 7 lbs., 3/6; Tins 1/- Carriage  
paid on 28 lbs. and up, anywhere in United Kingdom.

Sold by all SEEDSMEN and NURSEYMEN or from Sole makers.

WM. THOMSON & SONS, Ltd., CLOVENFORDS, N.B.

## Prevent Blight without Scorching



"Nothing is so common as to see a gardener using a mixture of arsenic and lime sulphur, which is a sure way of scorching his plants," says Mr. Berger.

"Safety first" is a good motto for Potato sprayers. Home-made spray fluid compounded from separately bought chemicals may prevent Potato

Disease, but because such mixtures are almost certain to contain an excess ingredient they may scorch your plants. To get safety with efficiency spray with "Bergercide"—ready for use when mixed with water and guaranteed scientifically exact. Spray at least twice—at two weeks' interval—and for safety's sake use the safe paste—



*Spray Your Fruit Trees with*

### BERGER'S ARSENATE OF LEAD

harmless to trees, fruit and foliage, but death to all leaf-eating insects.

**BERGER'S LIME SULPHUR** concentrated Fungicide solution. Destroys scale insects and fungus. Mixed with Arsenate of Lead it makes the ideal combination wash controlling all insects and fungus.

*Ask the local Berger Agent for Illustrated Spraying leaflets, or*

*Write to:-*

**Wm. Preston & Co., Ltd.**  
164 Gt Brunswick Street, DUBLIN

## Ask Your Nurseryman or Seedsman

For the following Well Known and Highly Efficient Horticultural Preparations.

### THE CHEAPEST INSECTICIDE OF THE DAY "NIQUAS"

(NON-POISONOUS) IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/-; pint, 1/9; quart, 3/-; half-gallon, 5/-; gallon, 8/9; five gallons, 30/-; ten gallons, 54/-; 1 gallon sufficient for 80 gallons of water.

### STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers  
Analysis on Application

Sold in Tins, 7½d., 1/3, 3/-, 6/6 each Cheaper in Bulk.

For Fumigating in Greenhouses.

"LETHORION"

### IMPROVED METAL CONES

Registered No: 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

### FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/3, 3/-, and 6/- each; Kegs, 4 cwt., 10/-; 4 cwt., 18/-; 1 cwt., 34/-

ELLIOTT'S

### "SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,629.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

### CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

## Dublin, Wednesday, May 19, 1892

There is a very good supply of fruit in the market, and the prices are generally low. The following is a list of the principal fruits and their prices per bushel or per dozen, as the case may be:

Apples (various sorts) 10/0 to 12/0  
 Pears (various sorts) 10/0 to 12/0  
 Plums (various sorts) 10/0 to 12/0  
 Cherries (various sorts) 10/0 to 12/0  
 Raspberries (various sorts) 10/0 to 12/0  
 Strawberries (various sorts) 10/0 to 12/0  
 Blackberries (various sorts) 10/0 to 12/0  
 Currants (various sorts) 10/0 to 12/0  
 Gooseberries (various sorts) 10/0 to 12/0  
 Elderberries (various sorts) 10/0 to 12/0  
 Huckleberries (various sorts) 10/0 to 12/0  
 Mulberries (various sorts) 10/0 to 12/0  
 Boysenberries (various sorts) 10/0 to 12/0  
 Loganberries (various sorts) 10/0 to 12/0  
 Marionberries (various sorts) 10/0 to 12/0  
 Tayberries (various sorts) 10/0 to 12/0  
 Marionberries (various sorts) 10/0 to 12/0  
 Tayberries (various sorts) 10/0 to 12/0

There are very few kinds of fruit offered in the market, and the prices are generally high. The following is a list of the principal fruits and their prices per bushel or per dozen, as the case may be:

Apples (various sorts) 10/0 to 12/0  
 Pears (various sorts) 10/0 to 12/0  
 Plums (various sorts) 10/0 to 12/0  
 Cherries (various sorts) 10/0 to 12/0  
 Raspberries (various sorts) 10/0 to 12/0  
 Strawberries (various sorts) 10/0 to 12/0  
 Blackberries (various sorts) 10/0 to 12/0  
 Currants (various sorts) 10/0 to 12/0  
 Gooseberries (various sorts) 10/0 to 12/0  
 Elderberries (various sorts) 10/0 to 12/0  
 Huckleberries (various sorts) 10/0 to 12/0  
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 Boysenberries (various sorts) 10/0 to 12/0  
 Loganberries (various sorts) 10/0 to 12/0  
 Marionberries (various sorts) 10/0 to 12/0  
 Tayberries (various sorts) 10/0 to 12/0  
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 Marionberries (various sorts) 10/0 to 12/0  
 Tayberries (various sorts) 10/0 to 12/0  
 Marionberries (various sorts) 10/0 to 12/0  
 Tayberries (various sorts) 10/0 to 12/0

The following is a list of the principal fruits and their prices per bushel or per dozen, as the case may be:

VEGETABLES.		From	To
		s. d.	s. d.
Cabbages (York)	per load	20 0	70 0
Carrots	per doz.	5 0	6 9
Onions	per doz.	2 6	2 9
Peas	per float	1 6	2 6
Rhubarb	per doz. bunches	2 6	4 4
Lettuces	per doz.	0 1	0 10
Thyme	per bunch	0 6	1 0
Swallows	per float	1 3	2 11
Onions	per float	3 6	3 9
Peas	per float	3 8	6 6
White Turnips	per bunch	1 3	1 6
Beans	per float	1 6	2 0
Tomatoes	per lb.	1 6	1 9
Cucumbers	per doz.	6 0	7 3
Mushrooms	per punnet	1 6	2 0
Marrows	per doz.	5 0	8 0
FRUIT.			
Peaches (1st)	per doz.	10 0	18 0
" (2nd)	per doz.	5 0	7 6
Raspberries	per punnet	2 0	2 3
Grapes	per lb.	3 6	1 6
FLOWERS.			
Achillea	per doz. bunches	7 0	10 0
Alstroemeria	per doz. bunches	7 0	10 0
Carnations	per doz. blooms	2 0	3 6
Delphiniums	per doz. bunches	6 0	7 0
Gaillardia	per doz. bunches	1 0	5 0
Sweet Peas	per doz. bunches	1 0	6 0
(various)			

J. S. F.

## Little's Weed Destroyers

KILLS ALL

### Weeds, Mosses, &c.

On Carriage Drives  
Gravel Paths

Double the strength of most  
Weed Killers.

1 gallon to 60 gallons water

## Wm. Little & Son, Ltd. Doncaster

My Heart

NOW READY

PHLOM  
MICHAEL

W. VINTAGE  
MERSELY

FOR SALE  
each: 5/-  
W. PATTISON

Save  
weary  
Weeding  
and  
Backache

ROSEN  
BOOKLET

W. DARLINGTON & CO.  
Leaf-miting  
all Pests  
Simple to use, no apparatus  
Boxes to fumigate  
No. 4 Packet also cubic feet  
for tender and ordinary  
cubic feet. 2/- 5/- each  
Seedsman and Florists  
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... varieties,  
... flowered and  
... ready at  
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Langport, Somerset.

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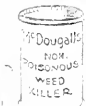
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**SAFE & EFFECTIVE**

From Nurserymen, Seedsmen and Growers.

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1870-1871



1902

Agapanthus insignis	...	5 -	
Andromeda arborea, everlast- brilliant of autumn tints	...	3, 4, 5 -	
Andromeda Mariana, beautiful fully tinted perfoliate	...	1, 2, 3, 4 -	
Andromeda nitida	...	1, 2, 3, 4 -	
" formosa (Rolli- sonii)	...	1, 2, 3, 4 -	
Acer Davidii, new species barked Maple from China on own roots	...	5/-	
Astilbe simplicifolia, a delicate gem	...	1, 6 -	12 -
Azalea Amcena, in many varieties	...		12 - 18 -
Azalea Mollis, nicely barked	...		12 - 18 -
Azalea ledifolia leucanthum hardy, pure white, fine bushes	...	1, 2, 3, 4, 5 -	
Berberis stenophylla, New Hybrids, named	...	1, 6, 2, 3 -	12 - 18 -
Corylopsis pauciflora	...	2, 3 -	
Cotoneaster Branchetti, strong	...	1, 6 -	12 -
" bullata	...	1, 6 -	12 -
" salicifolia floccosa	...	1, 6, 2, 3 -	
Dictamnus giganteus	...	1, 6 -	12 -
Enkianthus Campanulatus, big bushes	...	2, 6 to 5, 4 -	
Eucrymus European fructu coccinea, the finest fruiting kind	...	1, 6, 2, 3 -	
Erica arborea	...	1, 1, 6, 2, 3 -	12 - 18 -
" Codonodes	...	1, 1, 6, 2, 3 -	
" Veitchianus	...	1, 1, 6, 2, 3 -	
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Fagus Cunninghamii	...	3, 6, 5, 4 -	
Funkia Fortunei, beautiful glaucous, blue foliage	...	1/-	9 -
Gaultheria Veitchianus	...	3, 6 -	

**T. SMITH.**

Daisy Hill  
Nursery,

THE UNIVERSITY OF CHICAGO

## THE FERTILIZING

into the soil, and the result is a more healthy cultivation. *Peat*—*Peat* is a very valuable soil, and the result of its use is a more healthy soil, and the result of its use is a more healthy soil. The first of these is, that it is a very fertile soil, and secondly, it is a very healthy soil, and thirdly, it is a very healthy soil. In its use, it is absorbed by the soil, and it assists in dissolving mineral salts.

In well-cultivated soils, humus ranges from 2 to 3 per cent, and it is more than 100 times as much as in the soil, and it is more than 100 times as much as in the soil, and it is more than 100 times as much as in the soil.

Peat is a very fertile soil, and it is a very healthy soil. Its chemical properties are such that it is not retentive, but as a soil constituent, it is most valuable, for it makes the soil fertile, and it is a very healthy soil.


It is a very fertile soil, and it is a very healthy soil. It is a very fertile soil, and it is a very healthy soil. It is a very fertile soil, and it is a very healthy soil. It is a very fertile soil, and it is a very healthy soil.

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# SLOES!



## SLOE POWDER

### PROTECTS YOUR CROPS

FROM MICE, RATS, AND BIRDS.

(Bottle and Sample sent)  
 1 lb. 10s. and 1 lb. 10s. per box. (10s. 6d.)  
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**SLOES! SLOES!**  
**REGISTERED TRADE MARK.**  
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Make the most of your Garden in 1918

BY USING

# FERTILIZERS

Our Vine,  
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 able Manure, also Special  
 Top-dressing Manure are ever  
 popular in public favour—they embody the  
 practical experience of many years in all branches  
 of Horticulture, producing vigorous, healthy and fruitful growth.

Write for our booklet containing useful hints on Gardening Matters.

*Note*—Quantities of 20 lbs. and upwards are supplied in 14 lbs. bags.

VINE, PLANT AND VEGETABLE MANURE, 512 lbs., 204, 56 lbs., 134, 28 lbs., 9, 14 lbs., 5/4  
 1 lb., 2, 10s. 2 1/2 and 1 1/2. Carriage paid on all the above, anywhere in United Kingdom.  
 SPECIAL TOP-DRESSING MANURE, 512 lbs., 204, 56 lbs., 134, 28 lbs., 9, 14 lbs., 5/4. Carriage  
 paid on all the above, anywhere in United Kingdom.

Sold by all SEEDSMEN and NURSERMEN or from Sole makers:

**W. J. THOMSON & SONS, Ltd., CLOVENFORDS, N.B.**



From To  
S. A. S. A.

Apples (dessert)	per half bushel	18	0	23	0
"    "    "    "	per tray	12	0	16	0
"    "    "    "	per barrel	24	0	36	0
"    "    "    "	per half bushel	5	3	9	0
Pears	per dozen	6	0	12	0
Peaches	"    "	3	6	8	0
Plums	each	2	0	3	6
"    "    "    "	per tray	8	0	15	0
"    "    "    "	per half bushel	18	0	25	6

Asparagus	per box	50	0	100	0
Butter beans	per dozen	2	0	6	6
Cucumbers	"	2	0	7	0
Leg. Marrows	"	3	0	7	0
Sweeties	per cwt.	7	6	8	0
Peas	per bush	2	5	3	6
Carrots	per doz. bunches	2	0	3	6
Turnips	"	2	0	2	6
Brussels	"	1	6	2	0
Spinach	per bush	1	0	1	2
White Turnips	per bunch	0	6	1	2
Scallions	"	0	6	1	6
Cham.	per doz. bunches	0	6	0	10
Beet	per dozen	0	5	0	6
Kidney Beans	per tray	1	6	1	10
Lettuce	per dozen	0	3	0	6
Trippoli Onions	per bunch	2	0	2	6
Onions	per half bushel	2	6	3	3
Tomatoes	per lb.	0	10	1	3

Flowers	per doz. bunches	5	0	8	0
Geraniums	per doz. blooms	1	6	3	0
Helianthus	per doz. bunches	4	0	6	0
Roses	per doz. blooms	1	0	2	6

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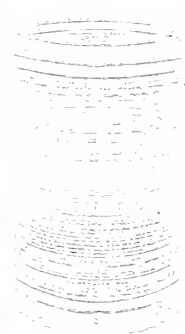
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present last month. Apples were scarce and prices increased a little.

1st. Cooking and dessert apples.—Good and also plentiful supplies of both kinds. Dessert apples of good quality were selling well through the market. The variety "Golden Deland" was Worcester's favourite. The best grades of good quality of ordinary pearlings and pips were very cheap, high, especially the "Golden Deland" and "Supplies" variety. Some of the samples of "Golden Deland" and "Supplies" were offered for sale and realised very high prices. Plums scarce, but readily bought up at good prices. Grapes more plentiful, prices lower. Apples were plentiful—mostly "Golden Deland"—and prices very good.

Flowers were offered in large quantities last month, but trade was dull.

The following is a price list for the month:—

VEGETABLES.	From	To
	s. d.	s. d.
York Cabbages—		
Large heads per dozen	70	0 120
Small heads "	31	0 70
Carrots per doz.	2	3 1
Onions per ton	1	3 7
White Turnips per bundle	0	3 1
Beet per doz.	0	3 1
Parsley per tray	0	5 7
Kidney and Runner Beans		

## FRUIT—continued

	From	To
	s. d.	s. d.
Peaks per bundle	0	4 0 8
Carrots per doz. bunches	1	6 2 0
Parsnips "	2	0 2 6
Swales per doz.	2	0 4 6
Onions (Irish) per ton	1	0 7 3
Tomatoes per lb.	0	1 1 5

## FRUIT.

Apples—		
Dessert (say) per doz.	2	0 3 6
" per box	3	6 13 0
" per tray	1	0 10 6
Peaks per barrel	31	0 50 0
" per bushel	13	0 17 0

## PEARS—

Williams per doz.	10	0 12 0
Bon Louise "	6	0 8 0
Average "	5	0 9 0

## GRAPES—

Black per lb.	2	3 2 9
Muscats "	2	6 2 9
Plums per bushel	15	0 18 0

## FLOWERS.

Asters per doz. bunches	5	0 8 0
Chrysanthemums "	5	0 6 0
Gladioli per doz. spikes	2	0 2 6
Roses per doz. bunches	6	0 8 0

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2	The Use and Purchase of Feeding Stuffs	35	The Apple.
3	Footrot in Sheep.	36	Cultivation of the Root Crop
4	The Sale of Flax.	37	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight.	38	Sprouting Seed Potatoes.
6	Charlock (or Preshaugh) Spraying	39	Testing of Farm Seeds.
7	Fluke in Sheep.	40	Out of Print.
8	Timothy Meadows.	41	Field Experiments—Wheat.
9	The Turnip Fly.	42	The Management of Dairy Cows.
10	Wireworms.	43	"Redwater" or "Blood Murrain" in Cattle.
11	Prevention of "White Scour" in Calves.	44	Varieties of Fruit suitable for cultivation in Ireland.
12	Conjunctive Abortion in Cattle	45	Forestry: The Planting of Waste Lands.
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17	Swine Fever.	50	Forestry: Planning, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
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40	Permanent Pasture Grasses.	73	Marketing of Wild Fruits.
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42	"Husk" or "Hoose" in Calves.	75	Store Cattle or Butter, Bacon and Eggs.
43	Ringworm on Cattle.	76	Packing Eggs for Hatching.
44	Haymaking.	77	Weeds.
45	The Black Currant Mite	78	Tuberculosis in Poultry.
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## Fruit Bud Formation

Observations on the bud formation, begun in 1917, have resulted in the accumulation of many data leading to the light upon the causes of the bud formation and development of the fruit bud, which is the vegetative stage of the fruit bud. It is already evident that many factors are involved, and that, given the necessary knowledge of the action of individual factors, a considerable degree of control over the bud formation for the following season could be obtained by suitable treatment of the tree during the growing period of one year, particularly during the latter half of the growing season. The practice of summer pruning is the means of effecting this control, adopted by fruit growers, but the variability in the results of the treatment is sufficient indication that the method as ordinarily practised is limited in its usefulness on account of the absence of precise knowledge of the conditions which should be taken into consideration. The variations in the response of individual trees under different conditions to summer pruning,

which have been observed in the course of the experiments, work on this subject, have served to throw considerable light upon the factors involved and the respective courses of action necessary to suit prevailing conditions. Several sets of experiments to test individual points have been started.—*Journal of the Board of Agriculture*, June, 1918.

## Reviews

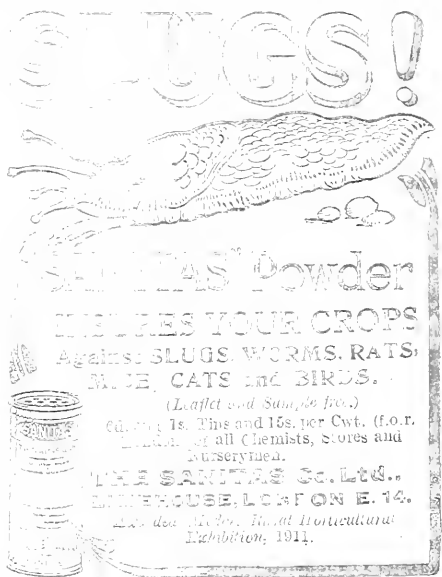
### \* Home-made Pickles and Preserves.

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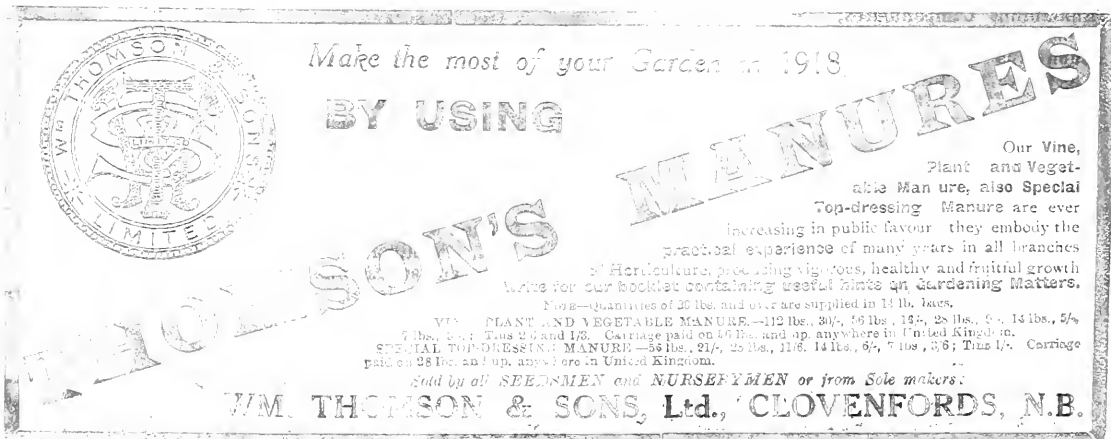
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Parsley	"	0 1	0 10
Felery	per bundle	1 6	3 0
Leeks	"	0 1	0 8
Beet	"	0 3	0 1
Thyme	"	0 4	0 6
Carrots	per doz. bunches	1 6	2 0
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Kidney Beans	per tray	1 0	1 6
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Apples—		per barrel	per bushel
Selected	per barrel	60 0	70 0
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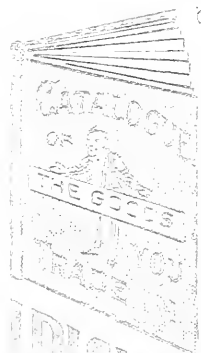
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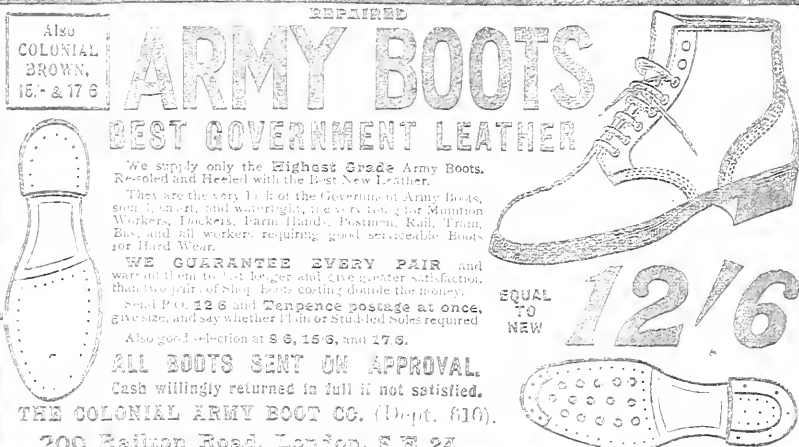
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ADERS of IRISH GARDENING are asked to kindly introduce the paper to any of their friends interested in plants and gardening. They will recognize that it well sustains its old standard of Excellence as to authoritative articles on both the practical and scientific side of Gardening.

Every Irish Gardener and every owner of any size Garden in Ireland should obtain IRISH GARDENING (monthly), and read it; and having read it should preserve it for binding. It is worth it!

# Department of Agriculture and Technical Instruction for Ireland.

## LIST OF THE DEPARTMENT'S LEAFLETS.

No.	Name	No.	Name
1	The Warble Fly.	54	Calf Meals.
2	The Use and Purchase of Feeding Stuffs.	55	The Apple.
3	Footrot in Sheep.	56	Cultivation of the Root Crop
4	The Sale of Flax.	57	Marketing of Fruit.
5	Celery Leaf-Spot Disease or Blight.	58	Sprouting Seed Potatoes.
6	Charlock (or Preshaugh) Spraying.	59	Testing of Farm Seeds.
7	Fluke in Sheep.	60	<i>Out of Print.</i>
8	Timothy Meadows.	61	Field Experiments—Wheat.
9	The Turnip Fly.	62	The Management of Dairy Cows.
10	Wireworms.	63	"Redwater" or "Blood Murrain" in Cattle.
11	Prevention of White Scour in Calves.	64	Varieties of Fruit suitable for cultivation in Ireland.
12	Liquid Manure.	65	Forestry: The Planting of Waste Lands.
13	Contagious Abortion in Cattle.	66	Forestry: The Proper Method of Planting Forest Trees.
14	Prevention of Potato Blight.	67	Forestry: Trees for Poles and Timber.
15	Milk Records.	68	Forestry: Trees for Shelter and Ornament.
16	Sheep Scab.	69	The Prevention of Tuberculosis in Cattle.
17	The Use and Purchase of Manures.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
18	Swine Fever.	71	Forestry: The Management of Plantations.
19	Early Potato Growing.	72	<i>Out of Print.</i>
20	Calf Rearing.	73	The Planting and Management of Hedges.
21	Diseases of Poultry—Gapes.	74	Some Common Parasites of the Sheep.
22	Basic Slag.	75	Barley Sowing.
23	Disbarring Calves.	76	American Gooseberry Mildew.
24	Care and Treatment of Premium Bulls.	77	Scour and Wasting in Young Cattle.
25	Fowl Cholera.	78	Home Buttermaking.
26	Winter Fattening of Cattle.	79	The Cultivation of Small Fruits
27	Breeding and Feeding of Pigs.	80	Catch Crops.
28	Blackleg, Black Quarter, or Blue Quarter	81	Potato Culture on Small Farms.
29	Flax Seed.	82	Cultivation of Main Crop Potatoes.
30	Poultry Parasites—Fleas, Mites, and Lice.	83	Cultivation of Osiers.
31	Winter Egg Production.	84	Ensilage.
32	Rearing and Fattening of Turkeys.	85	Some Injurious Orchard Insects.
33	Profitable Breeds of Poultry.	86	Dirty Milk.
34	The Revival of Tillage.	87	Barley Threshing.
35	The Liming of Land.	88	The Home Bottling of Fruit.
36	Field Experiments—Barley.	89	The Construction of Piggeries.
37	" " Meadow Hay.	90	The Advantages of Early Ploughing.
38	" " Potatoes.	91	Black Scab in Potatoes.
39	" " Mangolds.	92	Home Preservation of Eggs.
40	" " Oats.	93	Marketing of Wild Fruits.
41	" " Turnips.	94	<i>Out of Print.</i>
42	Permanent Pasture Grasses.	95	Store Cattle or Butter, Bacon and Eggs.
43	The Rearing and Management of Chickens	96	Packing Eggs for Hatching.
44	"Husk" or "Hoose" in Calves.	97	Weeds.
45	Ringworm on Cattle.	98	Tuberculosis in Poultry.
46	Haymaking.	99	Seaweed as Manure.
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
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50	Portable Poultry Houses.		
51	The Leather-Jacket Grub.		
52	Flax Growing Experiments.		
53	The Construction of a Cowhouse.		

### SPECIAL LEAFLETS.

1	Catch Crops—Spring Feeding for Stock.	15	Purchase of Basic Slag.
2	Autumn Sown Cereals.	16	Prices of Superphosphate.
3	Eggs and Poultry.	17	" " Compound Fertilisers.
4	<i>Out of Print.</i>	18	Treatment of Allotments for Growing of Vegetables.
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6	Winter Manuring—Grass Lands.	20	Prevention of Pollution of Rivers by Flax Farmers and Income Tax. [Water.
7	<i>Out of Print.</i>	21	Pig Keeping
8	Destruction of Farm Pests.	22	Palm Nut Cake and Meal.
9	<i>Out of Print.</i>	23	The Conversion of Grass Lands into Tillage.
10	Pig Feeding—Need for Economy. [omy]	24	Threshing and Storing of Grain.
11	Poultry Feeding—The Need for Econ-		
12	Digging and Storing Potatoes.		
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## Catalogues.

THE first of the new season's seed catalogues comes from Messrs. Edward Webb & Sons, Wordsley, Stourbridge, England. It is a handsome production, almost up to the Firm's pre-war standard, and lacking nothing essential in Vegetable and Flower Seeds. Webb's strains of various seeds enjoy a well-deserved renown, and although, through force of circumstances, prices still rule higher than before the war, yet it is a source of satisfaction to find the quality maintained with the prospect of an early return to the abundance of peace time and a probable reduction in cost as labour becomes more plentiful. We owe much to our Seedsmen for the way they have kept things going, and none deserve more credit than Webb & Sons.

## Correspondence.

### On Manuring of Apple Trees.

DEAR SIR, Permit me the use of your influential Journal to call fuller attention to the great need of guidance to our fruit growers in the manuring of fruit trees, particularly those grown in orchards. Many growers know little or nothing about which chemicals are best applied and when to do so. Although quite willing and anxious to give their trees some stimulant in the absence of farm-yard manure, they are ignorant of what class of fertilizer to apply.

Since the introduction of compulsory tillage, all the manure is appropriated for Turnips.

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Agapanthus insignis ...	5/-	
Andromeda arborea, the most brilliant of autumn tints ...	3, 6, 5 -	
Andromeda Mariana, beautifully tinted persistent foliage ...	1 - 1, 6	9 - 12
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Cotoneaster Franchetti, strong	1, 6	12 -
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Dictamnus giganteus ...	2, 6 to 5 -	
Enkianthus Campanulatus, big bushes ...	1, 6, 2, 6	
Euonymus Europæus fructo coccinea, the finest fruiting kind ...	1, 6, 2, 6, 9 - 12 - 18 -	
Erica arborea ...	1, 6, 2, 6	
" Codonodes ...	1, 6, 2, 6	
" Veitchianus ...	1, 6, 2, 6	
Eucryphia " pinnatifida, fine plants ...	3, 6 to 10, 6	
Fagus Cunninghamii ...	3, 6, 5 -	
Funkia Fortunei, beautiful glaucous, blue foliage ...	1/-	9 -
Gaultheria Veitchianus ...	3, 6	

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Iris lacustris, a charming rock plant, and now in full flower ...	1 -	9 -
Kirengoshoma palmata ...	1, 6, 2, 6	
Lysimachia Fortunei ...	1, 6	
Magnolia Fraserii } all {	7, 6	
" Kobus } own {	3, 6	
" parviflora } roots {	2, 6, 5 -	
Mimulus Bartonianus, a wonderful plant, flowers from June to October ...	1, 6	
Meconopsis Cambrica auranti- tius ...	1 - 1	9 -
Oxalis Valdivensis ...	1, 6	12 -
Orchis foliosa, the finest form of the Madeira Orchid ...	1, 6	15 -
115 - 100		
Pæonia lobata Sunbeam, the most brilliant of scarlet flowers ...	2, 6	
Plagianthus Lyallii, the best form ...	1, 6, 2, 6	
Podophyllum Emodii major	2, 6	
Photinia variabilis, the most brilliantly coloured of trees with autumn tints: fine trees ...	2, 6, 3, 6, 5, 4	
Pinus Montezumæ, nice trees in pots ...	2, 6, 3, 6, 5, 4	
Pterostyrax hispida ...	1, 6, 2, 6	
Rhododendron racemosum	1, 6, 2, 6	15 - 25 -
" ciliatum ...	1, 6, 2, 6, 3, 6	12 - to 30/-
Styrax Japonica ...	2, 6 to 5 -	
Sidalcea Rose Queen (T.S.), one of the best plants sent out of Daisy Hill, sheaves of bright rose-pink flowers, 6 feet high ...	1 -	9 -
Tritoma Modesta } white {	3, 6	
" Multiflora } flowers {	3, 6	
Yucca Vomerensis, one of the best of the family ...	2, 6, 3, 6	18/- to 30/-

**T. SMITH,**

Daisy Hill  
Nursery,

**NEWRY**

Potatoes, &c., with the result that both gardens and orchards have to do without, or at least do with whatever can be collected about grounds, such as leaves, decaying vegetables, &c. I have tried Basic Slag, putting it on during November 1917, scattered round trees as far as roots extend, sufficient to well colour the ground. The result this past season, especially in colour of fruit and in better growths of young wood (these trees were not growing satisfactorily), has induced me to continue this class of manuring this season, and am hoping to get even better results this coming year. But it is obvious that this class of manuring alone is not sufficient to maintain healthy trees in vigour and carry annually good crops of fruit. Farmyard manure being out of the question with me—what substitute can I apply that would answer the purpose and be fairly reasonable in price? Perhaps some of your expert readers in the fruit world would give us some lead in this matter, for it is one of vital importance to the fruit grower at the present time.

Apples have paid so handsomely this year that growers are willing to spend money on their orchards, and not leave them to take care of themselves as has so often been the case.

Hoping you will favour me by publishing these few notes in your next issue.—I am, Sir, yours faithfully,

"APPLES."

[What about Green-manuring?—ED.]

### Veronica Lavaudiana.

DEAR SIR.—You ask your subscribers to tell you in what aspects Veronica Lavaudiana flowers best. With us it is covered with blossom every year, growing on a low wall facing east and sheltered from winds. It roots very easily: indeed when allowed to creep it has rootlets all along the stems. It flowers too in a border facing west, but not quite so freely. One large shrub I had died very suddenly, it was 10 years old. It seems, however, quite hardy in this neighbourhood.—Yours faithfully,

F.E.A. GEOHEGAN.

## Queries from a Correspondent.

TO THE EDITOR.

DEAR SIR.—I enclose list of questions, I should be much obliged if you could answer them in the next number of your paper.

With regard to the Pears and Apples, I am asking for descriptions of one or two varieties to see if they correspond with those fruits to which the names have been given, but about which I am doubtful.

I have, unfortunately, no examples to send, as I am already sold out, though I had a good crop this year of most varieties. I think here fruit ripened early in spite of the want of sun.

Please tell me name of sprayer which would not be injured by Lime-Sulphur Spray. Is Copper the metal which is corroded by Lime-Sulphur? Would a dressing of basic slag be

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advantageous to a Rhubarb bed in addition to farmyard manure—say basic slag now and farmyard manure in February?

L. J. O'BARRICKFERGUS.

### Answers.

(a) PEARS.—Beurre d'Amont.—Large, round, russet-grey flesh, buttery, sweet and melting; October. Knight's Monarch.—Medium, oblate, greenish-yellow with brown russet and sometimes flushed crimson; buttery, sweet, melting, rich flavour; December. Catillac.—Large, roundish, green flushed; stewing; December to April. Vicar of Whitfield.—Long pyriform, frequently twisted, greenish-yellow, flesh white, melting, juicy; second rate; December.—A. F. BARRON (Pears).

APPLES.—Kedleston Pippin.—Small, round, greenish-yellow, firm, sweet; mid-season; dessert. Bess Pool.—Medium, conical, angular, green, russet-red streaked, very firm; late; second quality; dessert or cooking.—A. F. BARRON (Apples).

(b) The Four-Oaks Spraying Machine Co., Sutton Coldfield, Birmingham, supply a Knapsack Sprayer specially constructed for use with Lime-Sulphur solution. Catalogue price, £1 13s. You might communicate with them.

(c) Rhubarb.—Yes, Basic Slag, 3 ozs. to the square yard, applied at once, would supplement the manure applied in early spring.

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Efficient Horticultural Preparations.

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It can be applied with syringe or pump, or used for dipping.

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1 gallon sufficient for 50 gallons of water.

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This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

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### "SUMMER CLOUD" SHADING

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(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass.  
In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

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SPECIAL POTS of all descriptions. Bulb Bowls and Fern  
Pans from 20/- each.  
**RICHARD SANKEY & SON, LTD.**  
Bulwell Pottery, NOTTINGHAM

## Dublin Wholesale Markets.

DURING the month the supply of vegetables was hardly equal to the demand; keen rivalry was noticeable among buyers till a clearance of almost every commodity was effected. Apparently the supplies might be increased a good deal without causing any abatement in prices. The market was largely stocked with certain vegetables: Brussels Sprouts, White Turnips, and Cabbage. Cauliflowers were not so plentiful, and prices ran high accordingly. Home-grown Onions were rather scarce early in the month, and towards the end they had almost disappeared. It is lamentable to know that, in the Dublin market, where Onions find such ready sale, there are none to be seen but a few that grew in Spain. The controlled price is well over 5s. per stone, and anyone who finds Onions unprofitable must know very little about economy in producing them. Lettuce and Tomatoes are becoming scarcer than they were early in the month, and their prices have increased by double. Parsnips and Beet are scarce and fetching good prices.

Apples were coming in steadily, but the demand was greater than the supply. Later in the month there was a good deal of confusion owing to the price of Apples being controlled. If growers had known it in time there would be more confusion trying to get their stuff sold before they were "sat on." It is expected that there will be a more plentiful supply of Apples soon, now that the good old plan of hoarding them up till "they're worth their weight in gold," has proved a failure.

The bulk of the flowers offered for sale was Chrysanthemums, and they realized high prices all through the month.

The following is a price list for the month:—

VEGETABLES.	From		To	
	s.	d.	s.	d.
Cabbages (York) per load	20	0	40	0
Turnips—				
White per bunch	0	6	—	—
Yellow ..	0	6	0	8
Carrots per doz. bunches	1	6	1	10
B. Sprouts per float	2	0	2	0
Celery per doz.	3	3	5	6
Leeks per bunch	0	6	0	10
Beet per ½ bushel	1	6	2	0
Lettuce per tray	0	1	1	0
Artichokes per float	1	6	2	0
Onions ..	6	0	—	—
(home-grown)				
Cauliflowers per doz.	2	6	3	6
Tomatoes per lb.	0	8	1	0

## FRUIT.

Apples—Brandey's—				
Select per tray	9	0	12	0
2nd per bush.	18	0	25	0
" per barrel	60	0	100	0
Small (mixed) ..	15	0	70	0
Cox's Orange per tray	11	0	17	0
Ribston Pippin ..	12	0	15	0
Pears—				
Large (select) per doz.	7	0	10	0
Mellons (small) each	1	0	2	6

## FLOWERS.

Arum Lilies each	1	2	1	4
Chrysanthemums—				
Outdoor per doz. bunches	3	0	3	6
Good (yellow) per tray of 30 blooms	3	6	3	9

C. J. M'C.

# WINTER SPRAYING OF FRUIT TREES

to remove Lichen, &c.

Berger's Lime-Sulphur Wash  
Caustic Soda, 98 per cent.  
Paraffin (Solar Distillate)  
Pure Soft Soap

Copper Sulphate, 98 per cent.  
Cooper's V 1 Winter Spray  
Fluid, &c., &c. :: ::

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